

Project No. 1251-100

Crude Oil Tank Farms Project, Agrood Area 30 (Module-1)



Enppi



System ID

030-TE-001

**System
Description**

Integrated Voice & Data System

Sr.	Pre-Commissioning and Commissioning Dossier Index	Applicable (Yes/No)
1	Mechanical Completion Certificate (MCC)	
2	Ready for Startup Certificate (RFSU)	
3	System Punch Lists	
4	System Limits Marked Up P&ID	
5	System Index	
6	Piping Pre-Commissioning	
	6.01) Piping Test Packs	
	6.02) Piping Pre-commissioning Check Lists	
7	Piping Commissioning	
	7.01) Service Test, GLT, CLT and N2 Purging Certificates	
	7.02) Piping Commissioning Check Lists	
Sr.	Pre-Commissioning and Commissioning Dossier Index	Applicable (Yes/No)
8	Mechanical Pre-Commissioning	
	8.01) System Mechanical Index	
	8.02) Equipment Drawings	
	8.03) Equipment Datasheets	
	8.04) Boxing-up Certificates	

	8.05) Grouting Certificates	
	8.06) Pre-Alignment Certificates	
	8.07) Mechanical Pre-Commissioning Checklists	
9	Mechanical Commissioning	
	9.01) Final Alignment Certificates	
	9.02) Motor Solo Run Certificates	
	9.03) Mechanical Run Test (MRT) Certificates	
	9.04) Mechanical Commissioning Checklists	
	9.05) Mechanical Supplier Check Lists & Reports	
10	Instrumentation Pre-Commissioning	
	10.01) System Instrument Index	
	10.02) Instrument Data Sheets	
	10.03) Instrument Cable Schedule	
	10.04) System Instrumentation Wiring Diagram	
	10.05) Hook-up Drawing (Mechanical & Pneumatic)	
	10.06) Instruments Cables Schedule	
	10.07) Instruments Cables Laying Certificates	
	10.08) Instruments Cables Termination Certificates	
	10.09) Instruments Cables Testing Certificates	
	10.10) Instruments Calibration Certificates	
	10.11) Instrument Loop Checks Certificates	
	10.12) Instrumentation Pre-Commissioning Check Lists	
	10.13) Instrumentation Supplier Check Lists & Reports	
11	Instrumentation Commissioning	
	11.01) Instrumentation Function Test Certificates	
	11.02) Instrumentation Supplier Check Lists & Reports	
Sr.	Pre-Commissioning and Commissioning Dossier Index	Applicable (Yes/No)
12	Electrical Pre-Commissioning	
	12.01) System Electrical Index	
	12.02) Electrical Drawings	
	12.03) Motor Datasheets	
	12.04) Electrical Cables Schedule	
	12.05) Electrical Cables Laying Certificates	
	12.06) Electrical Cables Testing Certificates	
	12.07) Electrical Cables Termination Certificates	
	12.08) FAT Reports & Certificates	
	12.09) SAT Reports & Certificates	
	12.10) Electrical Pre-Commissioning Check Lists	
	12.11) Electrical Supplier Check Lists & Reports	

13	Electrical Commissioning	
	13.01) Electrical -Commissioning Check Lists	
	13.02) Electrical Supplier Check Lists & Reports	
14	Red Marked-up Drawings	
	14.01) P&ID	
	14.02) Instrumentation Drawings	
	14.03) Electrical Drawings	



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

1-Mechanical Completion Certificate (MCC)

SYSTEM MECHANICAL COMPLETION CERTIFICATE (MCC)

PROJECT TITLE : CRUDE OIL TANK FARM PROJECT (AGROOD AREA)

PROJECT No : 01251-100

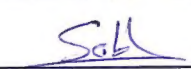
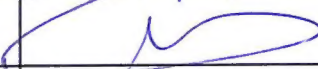
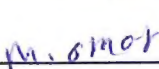
SYSTEM NAME : Integrated Voice & Data System

SYSTEM ID : 030-TE-001

THIS IS TO CERTIFY THAT:

- THE ABOVE SYSTEM HAS BEEN FABRICATED, ERECTED, INSTALLED AND TESTED TO THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS, THE APPLICABLE CODES AND STANDARDS.
- ALL PRE-COMMISSIONING RELEVANT ACTIVITIES, TESTS, INSPECTIONS AND CHECKS HAVE BEEN CARRIED OUT FOR THIS SYSTEM AND FOUND ACCEPTABLE.
- Q/C DOCUMENTATION OF THE ABOVE SYSTEM HAS BEEN AUDITED BY THE CUSTOMER SITE QUALITY CONTROL AND FOUND COMPLETED.
- ALL PUNCH LIST ITEMS CATEGORY (A) IN THIS SUBSYSTEM WERE CLEARED.
- THIS SYTEM IS MECHANICALLY COMPLETED ON THE DATE AND READY FOR COMMISSIONING (RFC) WITH THE FOLLOWING EXCEPTIONS.

EXCEPTIONS :

COMPANY	PETROJET	ENPPI	PMC
NAME	Sobhy Saleem	Mohamed Abbaz	Mohamed Amer
TITLE	E.I.T. Engineer	Constructor	I. Engineer
SIGNATURE			
DATE	10/11/2021		



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

2- Ready for Startup Certificate (RFSU)



READY FOR START UP CERTIFICATE

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD-30)

PROJECT No. : 1251-100


SYSTEM /AREA /PLANT : Integrated Voice & Data System

SYSTEM /AREA /PLANT No. : 030-TE-001

THIS IS TO CERTIFY THAT:

- THE MENTIONED SYSTEM /AREA /PLANT IS READY FOR START UP WHERE ALL MECHANICAL WORKS, PRECOMMISSIONING AND COMMISSIONING ACTIVITIES HAVE BEEN SUCCESSFULLY COMPLETED.
- MECHANICAL COMPLETION CERTIFICATE(S) FOR THE MENTIONED SYSTEM / AREA / PLANT HAVE BEEN SIGNED.
- ISSUANCE OF THIS READY FOR START UP CERTIFICATE(S) SHALL NOT RELIEVE CONTRACTOR(S) FROM THEIR OBLIGATIONS TO COMPLETE THE REMAINING SYSTEMS NOR FROM THEIR WARRANTY OBLIGATIONS AND OTHER PROVISIONS OF THE CONTRACT.
- THE FOLLOWING EXCEPTIONS AGREED TO BE CLEARED AFTER START UP AND WILL NOT PREVENT START UP ACTIVITIES.

EXCEPTIONS :

COMPANY	ENPPI	PPC
NAME	Ahmed El Shorfe	Mohamed Omar
TITLE	Commissioning Manager	I. engineer
SIGNATURE		M. Omar
DATE	6-11-2021	7-11-2021





Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

3- System Punch Lists

COMPANY	PTJ	ENPPI	PMC
NAME	Sobhy Seleem		moner
SIGN.			
DATE	6/11/2021		



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID

030-TE-001

System Description

Integrated Voice & Data System

4- System Limits Marked Up P&ID

System ID

030-TE-001

System Description

Integrated Voice & Data System

5- System Index



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID

030-TE-001

System Description

Integrated Voice & Data System

6- Piping Pre-Commissioning



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID

030-TE-001

System Description

Integrated Voice & Data System

6.01- Piping Test Packs



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

6.02- Piping Pre-commissioning Check Lists



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

7- Piping Commissioning



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

7.01- Service Test, GLT, CLT and N2 Purging Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

7.02- Piping Commissioning Check Lists



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID

030-TE-001

System Description

Integrated Voice & Data System

8- Mechanical pre-Commissioning

System ID

030-TE-001

System Description

Integrated Voice & Data System

8.01- System Mechanical Index

Enppi



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID

030-TE-001

System Description

Integrated Voice & Data System

8.02- Equipment Drawings



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID

030-TE-001

System Description

Integrated Voice & Data System

8.03- Equipment Datasheets



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID

030-TE-001

System Description

Integrated Voice & Data System

8.04- Boxing-up Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

8.05- Grouting Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID

030-TE-001

System Description

Integrated Voice & Data System

8.06- Pre-Alignment Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

8.07- Mechanical Pre-Commissioning Checklists



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

9- Mechanical Commissioning



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

9.01- Final Alignment Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

9.02- Motor Solo Run Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

9.03- Mechanical Run Test (MRT) Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

9.04- Mechanical Commissioning Checklists



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

9.05- Mechanical Supplier Check Lists & Reports



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10- Instrumentation Pre-Commissioning



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.01- System Instrument Index



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.02- Instrument Data Sheets



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.03- Instrument Cable Schedule



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.04- System Instrumentation Wiring Diagram



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.05- Hook-up Drawing (Mechanical & Pneumatic)



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.06- Instruments Cables Schedule



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.07- Instruments Cables Laying Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.08- Instruments Cables Termination Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.09- Instruments Cables Testing Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.10- Instruments Calibration Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.11- Instrument Loop Checks Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.12- Instrumentation Pre-Commissioning Check Lists



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

10.13- Instrumentation Supplier Check Lists & Reports



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

11- Instrumentation Commissioning



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

11.01) Instrumentation Function Test Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

11.02- Instrumentation Supplier Check Lists & Reports



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

12- Electrical Pre-Commissioning



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

12.01- System Electrical Index

030-TE-001	Integrated Voice & Data System	Electrical	P1-CCTV-CRK-030-01	LV Cable	Checklist
030-TE-001	Integrated Voice & Data System	Electrical	P1-VD-TRK-030-01	LV Cable	Checklist
030-TE-001	Integrated Voice & Data System	Electrical	P2-CCTV-CRK-030-01	LV Cable	Checklist
030-TE-001	Integrated Voice & Data System	Electrical	P2-VD-TRK-030-01	LV Cable	Checklist
030-TE-001	Integrated Voice & Data System	Electrical	P3-CCTV-CRK-030-01	LV Cable	Checklist
030-TE-001	Integrated Voice & Data System	Electrical	P3-VD-TRK-030-01	LV Cable	Checklist
030-TE-001	Integrated Voice & Data System	Telecommunication	VD-TEL-030-01	Telecommunication Cable	Checklist
030-TE-001	Integrated Voice & Data System	Telecommunication	VD-TEL-030-02	Telecommunication Cable	Checklist
030-TE-001	Integrated Voice & Data System	Telecommunication	VD-TEL-030-03	Telecommunication Cable	Checklist

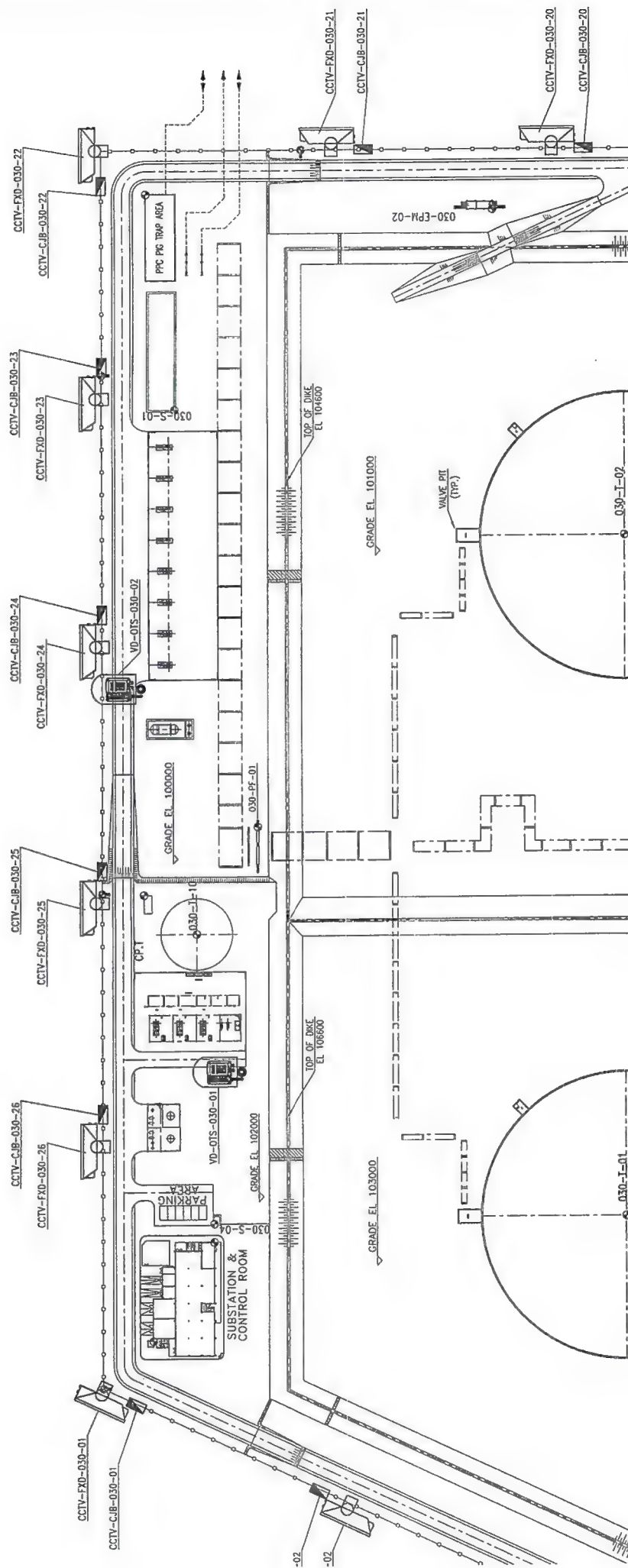


Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

12.02- Electrical Drawings





Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

12.03- Motor Datasheets



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

12.04- Electrical Cables Schedule

ITEM	CABLE TAG	CABLE COMPOSITION	SIGNAL TYPE	ARM.	FROM		TO		LENGTH (m)	EXT. COLOUR SHEATH	EXT. DIAM. (mm)	DRUM NO.	NOTE
					FROM	DESCRIPTION	TO	DESCRIPTION					
Analog Network													
1	VD-TEL-030-01	2x2x0.6	Analog	SWA	VD-MDF-030-01	INDOOR TELEPHONE MDF	VD-OTS-030-01	OUTDOOR TELEPHONE SET	130	BLACK	10.6	2B/13844/2020/01	
2	VD-TEL-030-02	2x2x0.6	Analog	SWA	VD-MDF-030-01	INDOOR TELEPHONE MDF	VD-OTS-030-02	OUTDOOR TELEPHONE SET	335	BLACK	10.6	2B/13844/2020/01	
3	VD-TEL-030-03	10x2x0.6	Analog	SWA	VD-MDF-030-01	INDOOR TELEPHONE MDF	VD-OJB-030-01	OUTDOOR TELEPHONE JB	860	BLACK	13.6	2B/13844/2020/02	
4	VD-TEL-030-04	CAT. 6A	Analog	F/UTP	VD-OJB-030-01	OUTDOOR TELEPHONE JB	VD-14	TELEPHONE OUTLET	35	BLACK	9.1	OUTDOOR CAT6A	
5	VD-TEL-030-05	CAT. 6A	Analog	F/UTP	VD-OJB-030-01	OUTDOOR TELEPHONE JB	VD-16	TELEPHONE OUTLET	40	BLACK	9.1	OUTDOOR CAT6A	
6	CCTV-CAM-030-09	CAT. 6A	Analog	F/UTP	CCTV-CIB-030-09	CCTV JB	CCTV-FXD-030-09	OUTDOOR FIXED IP CAMERA	40	BLACK	9.1	OUTDOOR CAT6A	
7	CCTV-MON-030-01	CAT. 6A	Analog	F/UTP	CCTV-CIB-030-09	CCTV JB	VD-15	DATA OUTLET	35	BLACK	9.1	OUTDOOR CAT6A	
8	VD-OUT-030-01	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-01	V & D OUTLET	25	BLUE	5.7	INDOOR CAT6A	
9	VD-OUT-030-02	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-02	V & D OUTLET	25	BLUE	5.7	INDOOR CAT6A	
10	VD-OUT-030-03	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-03	V & D OUTLET	25	BLUE	5.7	INDOOR CAT6A	
11	VD-OUT-030-04	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-04	V & D OUTLET	25	BLUE	5.7	INDOOR CAT6A	
12	VD-OUT-030-05	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-05	V & D OUTLET	35	BLUE	5.7	INDOOR CAT6A	
13	VD-OUT-030-06	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-06	V & D OUTLET	65	BLUE	5.7	INDOOR CAT6A	
14	VD-OUT-030-07	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-07	V & D OUTLET	35	BLUE	5.7	INDOOR CAT6A	
15	VD-OUT-030-08	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-08	V & D OUTLET	45	BLUE	5.7	INDOOR CAT6A	
16	VD-OUT-030-09	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-09	V & D OUTLET	45	BLUE	5.7	INDOOR CAT6A	
17	VD-OUT-030-10	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-10	V & D OUTLET	55	BLUE	5.7	INDOOR CAT6A	
18	VD-OUT-030-11	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-11	V & D OUTLET	45	BLUE	5.7	INDOOR CAT6A	
19	VD-OUT-030-12	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-12	V & D OUTLET	45	BLUE	5.7	INDOOR CAT6A	
20	VD-OUT-030-13	CAT. 6A	Analog	U/UTP	VD-LPP-030-01	UTP PATCH PANEL (V&D MAIN RACK)	VD-13	V & D OUTLET	45	BLUE	5.7	INDOOR CAT6A	

Cable Mark	GL1	FROM	TO	GL2	CABLE Service	Service Voltage	KW	Size
P1-VD-TRK-030-01	WP	030-SUB-UPDP-1 (L20)	VD-TRK-030-01 PS1	WP	IPH POWER FEEDER	230VAC	4	3x10
P2-VD-TRK-030-01	WP	030-SUB-UPDP-1 (L21)	VD-TRK-030-01 PS2	WP	IPH POWER FEEDER	230VAC	4.0	3x10
P1-CCTV-CRK-030-01	WP	030-SUB-UPDP-1 (L22)	CCTV-CRK-030-01 PS1	WP	IPH POWER FEEDER	230VAC	4	3x10
P2-CCTV-CRK-030-01	WP	030-SUB-UPDP-1 (L23)	CCTV-CRK-030-01 PS2	WP	IPH POWER FEEDER	230VAC	4	3x10
P3-VD-TRK-030-01	WP	030-SUB-ASP-1 (Q20)	VD-TRK-030-01 AUX.	WP	IPH POWER FEEDER	230VAC	0.5	3x4
P3-CCTV-CRK-030-01	WP	030-SUB-ASP-1 (Q21)	CCTV-CRK-030-1 AUX.	WP	IPH POWER FEEDER	230VAC	0.5	3x4

SUBSTATION AND CONTROL BUILDING

SUBSTATION AND CONTROL BUILDING

FIELD

2

SWITCHGEAR ROOM

CONTROL / TELECOM / SECURITY ROOMS

030-SUB-UPDP-1

BR	○	L15	○	BR
BK	○	L15	○	BL
○	○	PE	○	YG

P2-030-CONSOLE-001

3X4mm²030-CONSOLE-001
SECOND & THIRD UNIT

BR	○	1	○
BK	○	1	○
YG	○	PE	○

R	○	L16	○	BR
BK	○	L16	○	BL
○	○	PE	○	YG

P1-030-FGS-SC-001

3X4mm²

R	○	L17	○	BR
BK	○	L17	○	BL
○	○	PE	○	YG

P2-030-FGS-SC-001

3X4mm²

030-TGS-001

Y	○	L18	○	BR
BK	○	L18	○	BL
○	○	PE	○	YG

P1-030-TGS-001

3X4mm²

BR	○	1	○
BK	○	2	○
YG	○	PE	○

Y	○	L19	○	BR
BK	○	L19	○	BL
○	○	PE	○	YG

P2-030-TGS-001

3X4mm²

BR	○	1	○
BK	○	2	○
YG	○	PE	○

Y	○	L20	○	BR
BK	○	L20	○	BL
○	○	PE	○	YG

P1-VD-TRK-030-01

3X4mm²

BR	○	L	○
BK	○	N	○
YG	○	PE	○

Y	○	L21	○	BR
BK	○	L21	○	BL
○	○	PE	○	YG

P2-VD-TRK-030-01

3X4mm²

BR	○	1	○
BK	○	2	○
YG	○	PE	○

Y	○	L22	○	BR
BK	○	L22	○	BL
○	○	PE	○	YG

P1-CCV-CRK-030-01

3X4mm²

BR	○	1	○
BK	○	2	○
YG	○	PE	○

Y	○	L23	○	BR
BK	○	L23	○	BL
○	○	PE	○	YG

P2-CCV-CRK-030-01

3X4mm²

BR	○	1	○
BK	○	2	○
YG	○	PE	○

Y	○	L25	○	BR
BK	○	L25	○	BL
○	○	PE	○	YG

P-030-FIT-007

3X4mm²

030-FIT-007

Y	○	L26	○	BR
BK	○	L26	○	BL
○	○	PE	○	YG

P-030-FIT-008

3X4mm²

030-FIT-008

R	○	L27	○	BR
BK	○	L27	○	BL
○	○	PE	○	YG

P-030-FIT-009

3X4mm²

030-FIT-009

R	○	L27	○	BR
BK	○	L27	○	BL
○	○	PE	○	YG

P-030-FIT-009

3X4mm²

BR	○	L	○
BK	○	N	○
YG	○	PE	○

THIS DOCUMENT IS THE PROPERTY OF EGPCC. IT IS TO BE USED FOR THE PROJECT ONLY AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF EGPCC. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THIS DOCUMENT AND FOR THE RETURN OF THE ORIGINAL TO EGPCC AT THE END OF THE PROJECT.

EGPC
EGPC GENERAL PETROLEUM CO.
EGPC

EGPC CRUDE OIL TANK FARM
AGROOD AREA (MODULE-1)
ELECTRICAL INTERCONNECTION & WIRING DIAGRAM
AGROOD DISTRIBUTION PANEL (CONT.)
030-SUB-UPDP-1

EGPC CRUDE OIL TANK FARM
AGROOD AREA (MODULE-1)
ELECTRICAL INTERCONNECTION & WIRING DIAGRAM
AGROOD DISTRIBUTION PANEL (CONT.)
030-SUB-UPDP-1

EGPC CRUDE OIL TANK FARM
AGROOD AREA (MODULE-1)
ELECTRICAL INTERCONNECTION & WIRING DIAGRAM
AGROOD DISTRIBUTION PANEL (CONT.)
030-SUB-UPDP-1

EGPC CRUDE OIL TANK FARM
AGROOD AREA (MODULE-1)
ELECTRICAL INTERCONNECTION & WIRING DIAGRAM
AGROOD DISTRIBUTION PANEL (CONT.)
030-SUB-UPDP-1

SWITCHGEAR ROOM | CONTROL / TELECOM / SECURITY ROOMS

[illegible]

የጋራ ጥያቄ

AGROD AREA (MODULE-1)

AUXILIARY SERVICE PANEL

الشركة الهندسية للمصانع والبناء والكهرباء

五

Happi Ji

ENGINEERING FOR THE PETROLEUM AND PROCESS INDUSTRIES

NONE	01251-100-030-EWI-001	020 OF 078
------	-----------------------	------------

AD SIZE 297



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

12.04- Electrical Cables Schedule



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

12.05- Electrical Cables Laying Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

12.06- Electrical Cables Testing Certificates



Enppi

EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

CABLE INSULATION RESISTANCE TEST

INSPECTION REPORT NUMBER

REF-

INSTRUMENT TYPE:

INSPECTION DATE & TIME

SERIAL:

SERVICE VOLTAGE:

220 v

DOCUMENT NO.

ITR-EL-0006A

DISCIPLINE
ELECTRICAL

SYSTEM NO.:

SHEET NO

AREA / PACKAGE:

N O	Item/Tag NO.	CABLE SIZE	Continuity Test	PHASE TO PHASE "M.Ohm"			PHASE TO NUETRAL "M.Ohm"			PHASES & NUETRAL TO ARMOR "M.Ohm"				RESULT	
				BR-BK	BR-GR	BK-GR	BR-B	BK-B	GR-B	BR-ARM	BK-ARM	GR-ARM	B-ARM	Pass	FAIL
1	P1-CCTV-CRK-030-01	3x10	✓											✓	
2	P2-CCTV-CRK-030-01	3x10	✓											✓	
3	P3-CCTV-CRK-030-01	3x4	✓											✓	
4	P1-VD-TRK-030-01	3x10	✓											✓	
5	P2-VD-TRK-030-01	3x10	✓											✓	
6	P3-VD-TRK-030-01	3x4	✓											✓	
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															

Remarks :-

Reference :-

NAME :	PETROJET	Isenppi Sheriff	PMC
SIGNATURE			
DATE			

ITR-EL-0006A



EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

CABLE INSULATION RESISTANCE TEST

SYSTEM NO.:

INSPECTION REPORT NUMBER

INSPECTION DATE & TIME

REF: 255

DOCUMENT NO.
ITR-EL-0006A

DISPUNE
ELECTRICAL

SHEET NO.

INSTRUMENT TYPE:

SERIAL:

SERVICE VOLTAGE:
220 v




TEST VOLTAGE:
1kv

AREA / PACKAGE:

NO	Item/Tag NO.	CABLE SIZE	Continuity Test	PHASE TO PHASE "M Ohm"			PHASE TO NEUTRAL "M Ohm"			PHASES & NEUTRAL TO ARMOR "M Ohm"			RESULT	
				BR-BK	BR-GR	BK-GR	BR-B	BK-B	GR-B	BR-ARM	BK-ARM	GR-ARM	B-ARM	Pass / FAIL
1	P1-VD-TRK-031-01	3x10	✓											✓
2	P2-VD-TRK-031-01	3x10	✓											✓
3	P1-CCTV-CRK-031-01	3x10	✓											✓
4	P2-CCTV-CRK-031-01	3x10	✓											✓
5	P3-VD-TRK-031-01	3x4	✓											✓
6	P3-CCTV-CRK-031-01	3x4	✓											✓
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														

Remarks :-

Reference :-

NAME :		PETROJET		ENPPI		PMC	
SIGNATURE							
DATE							



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

12.07- Electrical Cables Termination Certificates



Enppi

EGPC CRUDE OIL TANK FARM



Owner : Egyptian General Petroleum Corporation (EGPC)

Project No: 01251-100-030
:01251-100-031

Contractor CONSORTIUM (ENPPI / PETROJET)

Document No: ITR-QC-0001
Revision No. : 00

REQUEST FOR INSPECTION

ACTIVITY : CABLE TERMINATION AND SPLICING

NOTIFICATION NO. : PTJ-ELEC-RFI- 255 DISCIPLINE : E&I

DATE : 9/2/2021

NO.	DESCRIPTION	LOCATION	DATE / TIME	INSPECTION			REMARKS
				PETROJET	ENPPI	PMC	
	CABLE TERMINATION AND SPLICING	MODULE 1	2-Sep-21				
1	P1-VD-TRK-031-01						
2	P2-VD-TRK-031-01						
3	P1-CCTV-CRK-031-01						
4	P2-CCTV-CRK-031-01						
5	P3-VD-TRK-031-01						
6	P3-CCTV-CRK-031-01						
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

NOTE:

Inspection result : A - Approved B - Reject C - Approved with Comment

	PETROJET	ENPPI	PMC
NAME :			
SIGNATURE			
DATE			

ITR-QC-0001



EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

CABLE TERMINATION AND SPLICING

SYSTEM NO.:

INSPECTION REPORT NUMBER

255

INSPECTION DATE & TIME

ITR NUMBER

ITR-EL-0009

DISCIPLINE

ELEC

SHEET NO

1 OF 1

Item/Tag NO.

Type :-

Core:

Size:

NO.	Description of check	RESULT		
		ACCEPT	REJECT	N/A.
1	Check cable glands are correct type and size as per cable schedule.	✓		
2	Check there are no damages to cores, termination chamber layout is satisfactory, core identification is correct, crimped and pins satisfactory.	✓		
3	Check cable tag is done correctly.	✓		
4	Test and confirm conductor, phase continuity.	✓		
5	Check insulation resistance test (megger) is completed *I	✓		
6	Check Hi-pot test is completed, only for MV/HV cables *II			✓
7	Connect all cores at both ends and confirm all connections are correct as per termination diagram.	✓		
8	Confirm spare cores, screens are earthed and conform to design drawings/specifications	✓		
9	Check enclosure cover is installed, no damages and no bolts are missing	✓		
10	Calibration test certificate of testing equipment to be checked.			✓

Remarks :

	PETROJET	ENPPI	PMC
NAME :			
SIGNATURE			
DATE			

ITR-EL-0009

**Enppi**

EGPC CRUDE OIL TANK FARM



Owner : Egyptian General Petroleum Corporation (EGPC)

Project No: 01251-100-030
:01251-100-031

Contractor CONSORTIUM (ENPPI / PETROJET)

Document No: ITR-QC-0001
Revision No. : 00**REQUEST FOR INSPECTION**

ACTIVITY : CABLE TERMINATION AND SPLICING

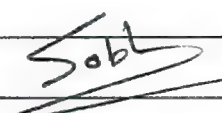
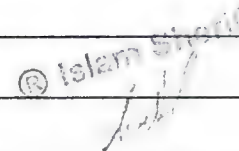
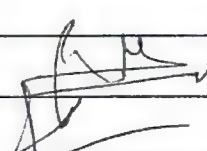
NOTIFICATION NO. : PTJ-ELEC-RFI- 256 DISCIPLINE : E&I

DATE : 9/2/2021

NO.	DESCRIPTION	LOCATION	DATE / TIME	INSPECTION			REMARKS
				PETROJET	ENPPI	PMC	
	CABLE TERMINATION AND SPLICING	MODULE 1	2-Sep-21				
1	P1-CCTV-CRK-030-01						
2	P2-CCTV-CRK-030-01						
3	P3-CCTV-CRK-030-01						
4	P1-VD-TRK-030-01						
5	P2-VD-TRK-030-01						
6	P3-VD-TRK-030-01						
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							

NOTE:

Inspection result : A - Approved B - Reject C - Approved with Comment

	PETROJET	ENPPI	PMC
NAME :			
SIGNATURE			
DATE			

ITR-QC-0001



EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

CABLE TERMINATION AND SPLICING

SYSTEM NO.:

INSPECTION REPORT NUMBER

INSPECTION DATE & TIME

ITR NUMBER

DISCIPLINE

SHEET NO

256

ITR-EL-0009

ELEC

1 OF 1

Item/Tag NO.

Type :-

Core:

Size:

NO.	Description of check	RESULT		
		ACCEPT	REJECT	N/A.
1	Check cable glands are correct type and size as per cable schedule.	✓		
2	Check there are no damages to cores, termination chamber layout is satisfactory, core identification is correct, crimped and pins satisfactory.	✓		
3	Check cable tag is done correctly.	✓		
4	Test and confirm conductor, phase continuity.	✓		
5	Check insulation resistance test (megger) is completed * ¹	✓		
6	Check Hi-pot test is completed, only for MV/HV cables * ¹¹			✓
7	Connect all cores at both ends and confirm all connections are correct as per termination diagram.	✓		
8	Confirm spare cores, screens are earthed and conform to design drawings/specifications	✓		
9	Check enclosure cover is installed, no damages and no bolts are missing	✓		
10	Calibration test certificate of testing equipment to be checked.			✓

Remarks :

	PETROJET	ENPPI	PMC
NAME :			
SIGNATURE			
DATE			

ITR-EL-0009

**Enppi**

EGPC CRUDE OIL TANK FARM



Owner : Egyptian General Petroleum Corporation (EGPC)

Project No: 01251-100-030
:01251-100-031

Contractor CONSORTIUM (ENPPI / PETROJET)

Document No: ITR-QC-0001
Revision No. : 00**REQUEST FOR INSPECTION**

ACTIVITY : CABLE TERMINATION AND SPLICING

NOTIFICATION NO. : PTJ-TEL-RFI- 12 DISCIPLINE : E&I

DATE : 11/3/2021

NO.	DESCRIPTION	LOCATION	DATE / TIME	INSPECTION			REMARKS
				PETROJET	ENPPI	PMC	
	CABLE TERMINATION AND SPLICING	MODULE 1	3-Nov-21				
1	VD-TEL-030-01						
2	VD-TEL-030-02						
3	VD-TEL-030-03						
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							

NOTE:

Inspection result : A - Approved B - Reject C - Approved with Comment

	PETROJET	ENPPI	PMC
NAME :			
SIGNATURE			
DATE			

ITR-QC-0001



EGPC CRUDE OIL TANK FARM



ATION AND TEST REPORT FOR

CABLE TERMINATION AND SPLICING

SYSTEM NO.:

INSPECTION REPORT NUMBER

INSPECTION DATE & TIME

ITR NUMBER

DISCIPLINE

SHEET NO.

ITR-EL-0009

ELEC

1 OF

Item/Tag NO.

Type :-

Core:

Size:

NO.	Description of check	RESULT		
		ACCEPT	REJECT	N/A.
1	Check cable glands are correct type and size as per cable schedule.	✓		
2	Check there are no damages to cores, termination chamber layout is satisfactory, core identification is correct, crimped and pins satisfactory.	✓		
3	Check cable tag is done correctly.			
4	Test and confirm conductor, phase continuity.	✓		
5	Check insulation resistance test (megger) is completed *I	✓		
6	Check Hi-pot test is completed, only for MV/HV cables *II			
7	Connect all cores at both ends and confirm all connections are correct as per termination diagram.	✓		
8	Confirm spare cores, screens are earthed and conform to design drawings/specifications	✓		
9	Check enclosure cover is installed, no damages and no bolts are missing	✓		
10	Calibration test certificate of testing equipment to be checked.			

Remarks :

	PETROJET	ENPPI	PMC
NAME :			
SIGNATURE			
DATE			

ITR-EL-00

System ID	030-TE-001
System Description	Integrated Voice & Data System

12.08- FAT Reports & Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-TE-001
System Description	Integrated Voice & Data System

12.09- SAT Reports & Certificates

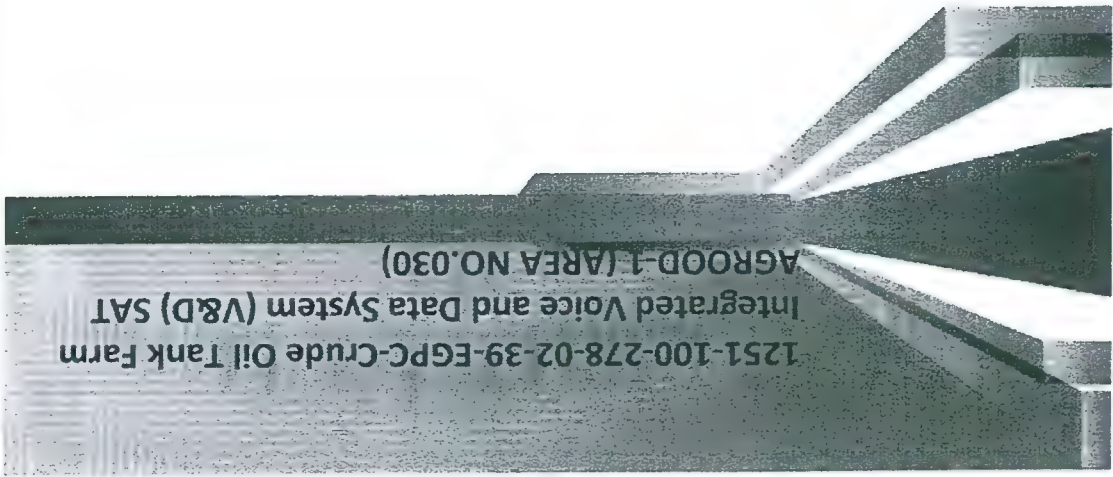
**SUPPLIER'S DOCUMENT COVER PAGE
(FOR A4/A3 DOCUMENTS ONLY)**

SUPPLIER'S NAME : HITEKNOFAL	
PURCHASE ORDER No : 1251-100-277-02-40	
DOCUMENT TITLE : SAT Procedures Agrod Area 30	TOTAL No OF PAGES : 27
SUPPLIER'S ORDER No : LPO/1078/2020	

SUPPLIER'S OWN DOCUMENT No	SUPPLIER'S REVISION	DATE	SUPPLIER APPROVAL SIGNATURE
	0	3/11/2021	

ENP-2020-1078-P06		

SUPPLIER DOCUMENT REVIEW		PROJECT TITLE : CRUDE OIL TANK FARM	ENPPI PROJECT NUMBER : 1251-100	PACKAGE DESCRIPTION : Integrated Voice and Data System	EQUIPMENT TAG : NA	CODE IDENTIFIER : P06	DOCUMENT NUMBER	REV	0
<input checked="" type="checkbox"/> 1. WORK MAY PROCEED. <input checked="" type="checkbox"/> 2. COMMENTS, WORK MAY PROCEED SUBJECT TO INCORPORATION OF CHANGES INDICATED. <input checked="" type="checkbox"/> 3. REVISE AND RESUBMIT, (MAJOR COMMENTS) WORK MAY NOT PROCEED. <input checked="" type="checkbox"/> 4. REJECTED, (REASON TO BE SPECIFIED ON THE DOCUMENT). <input checked="" type="checkbox"/> 5. HOLD FOR A SPECIFIC REASON (TO BE SPECIFIED ON THE DOCUMENT).		SIGNATURE: _____ NAME: _____ DATE: _____							





HitekNOFAL Solutions

Document Control

Prepared for
EGPC (Company)
ENPPI (Contractor)

Document Information

Prepared by
HitekNOFAL Solutions (Supplier)

Document Title

EGPC-Crude Oil Tank Farm SAT

Document Owner

HitekNOFAL Solutions

Document Classification

Confidential

Document Record

Date	Author	Title	Version	Change Reference
11-2021	Ahmed Ali	Senior System Engineer	1.0	Initiate

Table of contents

1. Document purpose
2. Overview and purpose of the project
3. Abbreviations
4. Delivered material (BOM)
5. Cabinets Test
6. Rules for retesting any failed Functional Test
7. Punch list report
8. Table of signatures





1. Document Purpose

The purpose of this document is to describe the Site Acceptance Test (SAT) for the Integrated Voice & Data System to be installed in EGPC Crude Oil Tank Farm Project AGROOD-1 (AREA NO.030).

The purpose of the SAT is to check all system components operation and test system features after installation on Site.

2. Overview & Purpose of the project

The system is based on IP network LAN and voice Systems for EGPC crude oil tank farms that will serve for all data and Voice System and connectivity with all data and telephony outlets. Provide Network connectivity and collaboration services with analog and IP telephony system to all users on local network of EGPC farms sites via latest Cisco technologies (switching system and collaboration services).

3. Abbreviations

VLAN	Virtual Local Area Network
SW	Cisco Switch
POST	Power on Self-test
IOS	Internetworking operating system
CLI	Command line interface
UTP	Unshielded twisted pair
TFTP	Trivial file transfer protocol
SIP	Session initiate protocol
CUCM	Cisco Unified Call Manger



HitekNOFAL Solutions

4. Visual Inspection for system components

Ref. in PO	Item Description	Brand	P/N	UOM	QTY	CHIEF
1.1.1	Cisco Business Edition 6000M (M5) Appliance, Export Restr SW	CISCO	BEGM-M5-K9	E	1	
1.1.31	Cisco Unified Attendant Consoles 12.x	CISCO	L-CUAC12X	Lic	1	
1.1.33	Cisco ISR 4321 Bundle, w/UC License	CISCO	ISR4321-V/K9	Lic	1	
1.2	Cisco IP Phone 8841	CISCO	CP-8841-K9=	E	7	
1.3	Outdoor Telephone sets Complete with Telephone protection hood type 404 / Synthetic Material	FHF	FHF11286101	E	2	
1.3	Telephone protection hood type 404	FHF	11890112	E	2	
1.4	Modular 24 FXS Port VoIP Gateway with PVDN3-64	CISCO	VG310	E	1	
1.5	Outdoor Telephone Junction Box	Local		E	1	
1.6	Indoor Telephone MDF	R&M	R27102-060	E	1	
1.7	Outlets & Accessories: RJ45 Single Flush mounted type	HitekNOFAL	HN-17-0464	E	20	
1.7	Outlets & Accessories: Completed with CAT6 UTP Keystone Jacks	HitekNOFAL	HN-17-0245	E	20	
1.7	Outlets & Accessories: Completed with BackBox	HitekNOFAL	HN-17-0722	E	20	
1.8	Lenovo Workstation complete with Lenovo D22 LCD, Keyboard and Mouse	LENOVO	ThinkstationP330	E	1	
1.9	Indoor Analog Desktop Telephone Set	Panasonic	KX-TS880	E	1	



HitekNOFAL Solutions

	Catalyst 9200L 24-port PoE+, 4 x 1G, Network Essentials	CISCO	C9200L-24P-4G-E			
2.1.1	Essentials			E	1	
2.2	Cat6 UTP Patch panel	HitekNOFAL	HN-17-0457	E	1	
2.3	Cat6 UTP Patch Cord (1m) - Legrand	Legrand	51874	E	20	
2.4	Cat6 UTP Patch Cord (3m) - Legrand	Legrand	51876	E	15	
2.5	IP42 Cabinet 19" 42U	HitekNOFAL	HN-19-0064	E	1	
2.5	2 U Vertical Aluminum 8-way German Socket with Circuit breaker and built-in surge protector	Canovate	PB-S08-011-116-1A1F-W-2U	E	2	
2.6.1	2 Pair Copper Cable 2x2x0.6mm twisted Pair	El-Sewedy	TCU/PE/OS/SWA/HDPE	Meter	600	
2.6.2	10 Pair Copper Cable 10x2x0.6mm twisted Pair	El-Sewedy	TCU/PE/OS/SWA/HDPE	Meter	1000	
2.6.3	Indoor Cat 6A UTP Cable	BELDEN	2413	Box	5	
2.6.4	Outdoor Cat 6A UTP Cable	BELDEN	2141A	Meter	130	
2.7	Software Licenses All software licenses for system equipment including PBX, switches, IP telephone sets, etc.	CISCO		Lot	1	
3.3	Poles, 2 Mt Hight, galvanized steel fixed pole to support the outdoor telephone...etc.	Local	N/A	Each	2	
3.4.1	50mm PVC Conduits	Mistr EL Hegaz	N/A	Meter	55m	
3.4.2	50mm Heavy Gauge PVC-U Conduits	Marshall Tuffex	CRX50HG	Meter	20m	

All System components are installed as per Voice & Data System PO

YES

NO



HitekNOFAL Solutions

5. Functional Tests

5.1 Cisco 9200 CORE switch

Test Title	Test procedure	Acceptance criteria	Test results	Notes
Power on self-test			Pass	
System power supply status	Validate if power supply of switch is powered up normally	Check all LED Must be green on power supply chassis	✓	
IOS loading status	Validate that the IOS is loaded into the system memory	All tests must pass as following message : POST: CPU Buffer Tests : Begin POST: CPU Buffer Tests : End, Status Passed POST: CPU Interface Tests : Begin POST: CPU Interface Tests : End, Status Passed POST: Switch Core Tests : Begin POST: Switch Core Tests : End, Status Passed POST: CPU Interface 2nd Stage Tests : Begin POST: CPU Interface 2nd Stage Tests : End, Status Passed POST: CAM Subsystem Tests :	✓	



HitekNOFAL Solutions

	Begin POST: CAM Subsystem Tests : End, Status Passed POST: Ethernet Controller Tests : Begin POST: Ethernet Controller Tests : End, Status Passed	
Switch Interface Status	Validate that all the line cards are powered up.	Check all LED on line cards must be green and up
Port / Module status	Validate that all ports are operational and in green LED	Check all LED on cards must be green in normal operation
Wiring / Connection status	Validate all passive connection to switches are installed	Check all fiber cord and UTP cords connection to switches
Labels	Validate switch labels	Check labels of installed switch and Patch cords connection labels
Power supply Hot standby redundancy	Validate installation of two power supplies on switch chassis	Disconnect one of the power sources to switch and let switch operate in other source
Protective earth	Validate installation of earthing system	Check earthing cable that connected from Rack and earthing bar



HitekNOFAL Solutions

Layer 2 configuration	VLAN creation		
	Validate that the proper VLANs are created on Switches	On CLI of switch type the following command to ensure vlans are created Switch# show interface vlan Output# vlan 100 data Vlan 200 voice	✓
Trunk Configuration (Future Use)	Validate that all the trunk links are configured as per the LLD Document	You can check trunk ports on switch by typing the following command, Switch# show interface trunk Output# it will list all interfaces that configured as a trunk ports	✓
Layer 3 configuration	Intervlan routing applied	Validate configuration of Intervlan routing Check if we can reach all vlans in network as per configured Intervlan routing Switch# ping ip address Output# reply with ip address	✓
Common Features (Licenses, Software, Versions, ...etc)		Validate all the Common Features Check if the common Features are valid or not	✓
Port POE	Validate The POE over all ports	Check The POE over all ports	✓
CISCO Unified Attendant Console Features	Telephony Features (Core Call Controls, call Park, Call History, ...etc)	Validate the Telephony features Check the Telephony features	✓



HitekNOFAL Solutions

Directory Features (Personal directory groups, Unified directory search and Presence integration)	Validate the Directory Features	Check the Directory features
Administrative features (Sign-in device restriction, Configuration lockdown and Application dial rules synchronization)	Validate the Administrative Features	Check the Administrative Features



HitekNOFAL Solutions

5.2 Cisco BE6000 Voice Server

Test Title	Test procedure	Acceptance criteria	Test results	Notes
			Pass Fail	
Power Test	System Power supply status	Validate if power supply of Server is powered up normally	✓	
	OS loading	Validate server operating system loading into RAM	✓	
	Wiring / Connection status	Validate all passive connection to the server are installed	✓	
	Labels	Validate Server labels	✓	
	Protective earth	Validate installation of earthing system	✓	
Layer 2 Configuration	Power supply Hot standby Redundancy	Validate installation of two power supplies on Server chassis	✓	
	Hardware modules status	Validate all server hardware modules and specs	✓	
	VLAN assignment	Validate that server has assigned to its appropriate VLAN	✓	
		Check hardware of server modules and specs as per ordered	✓	
		Check from network setting on server OS that has correct IP address of VLAN	✓	



HitekNOFAL Solutions

Layer 3 Configuration	Web Logging			
Common Features (Licenses, Software, Versions, ...etc)	End points configuration	Validate if we can access CUCM server via Web HTTP protocol	By typing IP of server to check if we can access it via Web HTTP protocol	<input checked="" type="checkbox"/>
		Validate all end points (Cisco IP phones and analog phones) are configured on server	After accessing web we can go to TAB of phones configuration and check that	<input checked="" type="checkbox"/>
		Validate all the Common features	Check all the Common features	<input checked="" type="checkbox"/>



Test Title	Test procedure	Acceptance criteria	Test results	Notes
Power Test	System Power supply status IOS Loading Status	Check Router operation LED status working All tests must pass as following message: POST: CPU Buffer Tests: Begin POST: CPU Buffer Tests: End, Status Passed POST: CPU Interface Tests: Begin POST: CPU Interface Tests: End, Status Passed POST: Switch Core Tests: Begin POST: Switch Core Tests: End, Status Passed POST: CPU Interface 2nd Stage Tests: Begin POST: CPU Interface 2nd Stage Tests: End, Status Passed POST: CAM Subsystem Tests: Begin POST: CAM Subsystem Tests: End, Status Passed POST: Ethernet Controller Tests: Begin POST: Ethernet Controller Tests: End, Status Passed POST: Loopback Tests: Begin	✓ ✓ ✓	



HitekNOFAL Solutions

		POST: Loopback Tests: End, Status
Layer 3 configuration	Router interface Status	Passed
	Port / Module	Check all LED on line cards must be green and up
	Wiring / Connection status	Check all LED on cards must be green in normal operation
	Labels	Check all UTP cords connection to the Switch.
	Protective earth	Check labels of installed Router and Patch cords connection labels
Layer 3 configuration	Trunk Configuration (Future Use)	Check earthing cable that connected from Rack and earthing bar
	Routing protocol applied	You can check trunk ports on switch by typing the following command, switch# show interface trunk
		Output# it will list all interfaces that configured as a trunk ports
		Check if we can reach all vians in network as per configured routing
		Router# ping ip address
		Output# reply with ip address



HitekNOFAL Solutions

5.4 Cisco 8841 IP Phone

Test Title	Test procedure	Acceptance criteria	Test results	Notes
Power Test	System Power status	Validate if power POE of switch to phone powered up normally	✓	
	OS loading	Validate IP Phone operating system loading from server	✓	
	Wiring / Connection status	Validate passive connections to the IP Phone and server are installed	✓	
Layer 2 configuration	Labels	Validate IP Phone labels	✓	
	VLAN assignment	Validate that IP Phone has assigned to its appropriate VLAN	✓	
Layer 3 configuration	TFTP setting	Validate if IP phone receives correct configuration from TFTP server	✓	
	IP phone Registration	Validate IP phone registration to CUCM server and working	✓	
		Check IP phone operation LED status working	Pass	
		Check IP Phone operating system is up and running	Fail	
		Check UTP patch cord connection from switch to IP Phone and server.		
		Check labels of installed IP Phone and Patch cords connection labels		
		Check from network setting on IP Phone OS that has correct IP address of VLAN		
		Check IP phone TFTP setting from phone		
		GUI that server IP is configured		
		Check IP phone GUI and screen setting that has a valid DN and label and can setup a call		



HiEkNOFAL Solutions

5.5 Cisco VG 310 gateway

Test Title	Test procedure	Acceptance criteria	Test results	Notes
Power status			Pass	
System power supply status	Validate if power supply of VG is powered up	Check all LED Must be green on power supply chassis	✓	
IOS loading status	Validate that the IOS is loaded into the system Memory	All tests must pass as following message: POST: CPU Buffer Tests: Begin POST: CPU Buffer Tests: End, Status Passed POST: CPU Interface Tests: Begin POST: CPU Interface Tests: End, Status Passed POST: Switch Core Tests: Begin POST: Switch Core Tests: End, Status Passed POST: CPU Interface 2nd Stage Tests : Begin POST: CPU Interface 2nd Stage Tests : End, Status Passed POST: CAM Subsystem Tests: Begin POST: CAM Subsystem Tests: End, Status Passed POST: Ethernet Controller Tests: Begin	✓	



HitekNOFAL Solutions

POST: Ethernet Controller Tests: End			
VG interface Status	Validate that all the line cards are powered up.	Check all LED on line cards must be green and up	✓
Port / Module status	Validate that all ports are operational and in green LED	Check all LED on cards must be green in normal operation	✓
Wiring / Connection Status	Validate all passive connection to the VG are installed	Check all UTP cords connection to the VG	✓
Labels	Validate VG labels	Check labels of installed VG and Patch cords connection labels	
Protective earth	Validate installation of earthing system	Check earthing cable that connected from Rack and earthing bar	✓
Trunk Configuration (Future Use)	Validate that all the trunk links are configured as per the LLD Document	You can check trunk ports on switch by typing the following command, VG# show interface trunk Output# it will list all interfaces that configured as a trunk ports Check if the common features are valid or not	✓
Common Features (licenses, Software, Versions,...etc)	Validate if the common features are valid or not		✓



HitekNOFAL Solutions

5.6 Analog Telephone Sets

Test Title	Test procedure	Acceptance criteria	Test results	Notes
Visual Check	Visual check on the telephones sets	Check status of analog telephones sets with its required accessories for operation	Pass	
VG connections	Validate all connectivity from analog phones to voice gateway	Check configuration of SIP registration for analog phones and VG in CUCM	Fail	



HitekNOFAL Solutions

MDF Installation and Fluke Test

Test Title	Test procedure	Acceptance criteria	Test results		Notes
			Pass	Fail	
MDF Installation test	check the color code connection between multi pair cable & MDF physically Using tone testing tool to check the connection from end to end	Connected / Disconnected	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fluke Test – UTP Cables	Perform Fluke device testing UTP cable	Pass/Fail	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

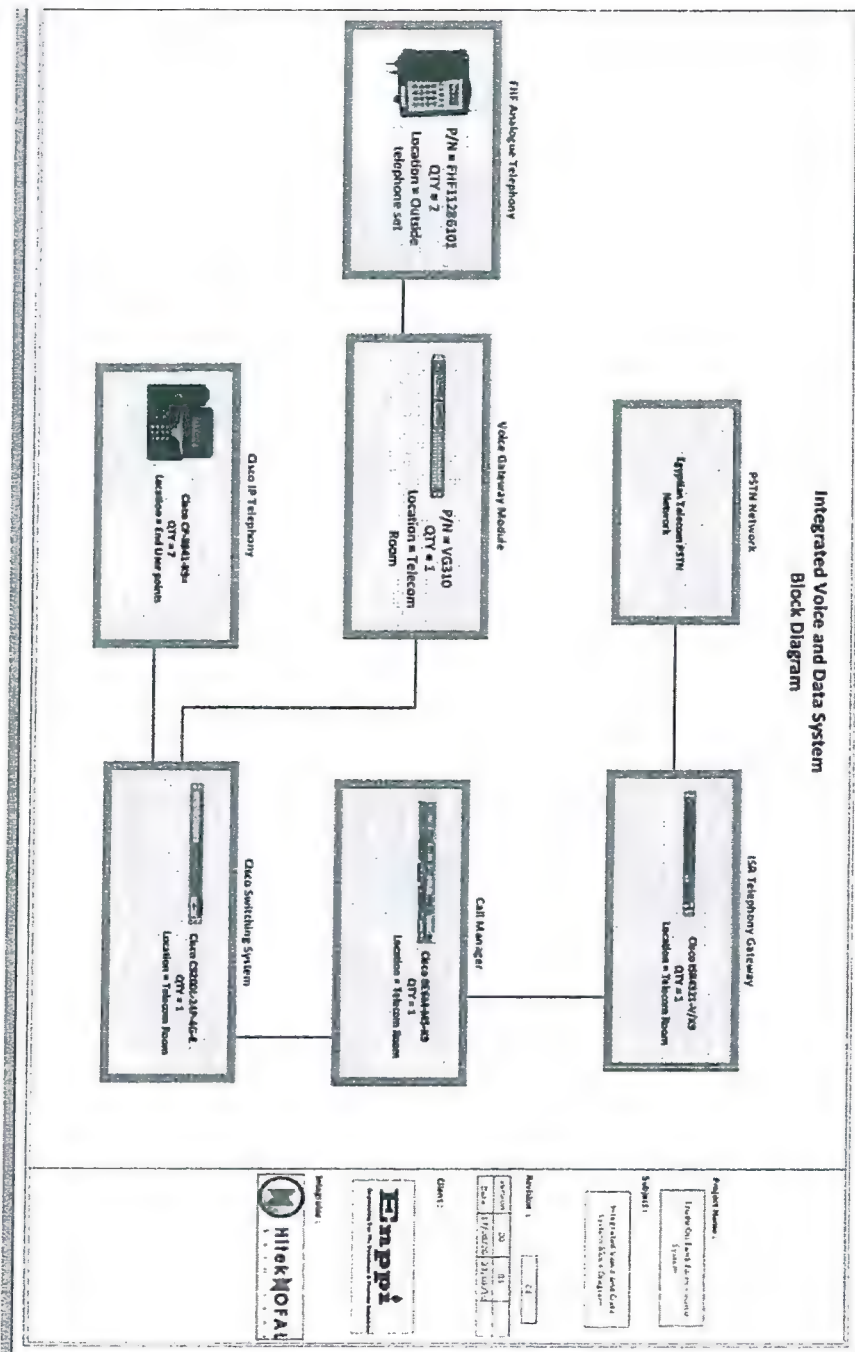
6. Rules for retesting any failed functional test:

- HitekNofal is responsible for resolving any issues related to any failed Functional test within 5 Working Days.



HitekNOFAL Solutions

Block Diagram





HitekNOFAL Solutions

Overall System Test Procedure

Test Title	Test procedure	Acceptance criteria	Test results	Notes
IP Addresses of voice system	Validate all IP schema for voice system and its components	Check all Ethernet and network setting for devices and must have an IP of same voice system subnet	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
Dial and numbering plan	Validate all Dial plan and numbering as per LLD	Check all IP phones numbering and dial plan within CUCM configuration	<input checked="" type="checkbox"/>	
Call forward	Validate if call forward features are configured	While receiving a call from DN, check if we transferee call to another DN using Soft key GUI in IP phone will ring or not	<input checked="" type="checkbox"/>	
Call Back	Validate if call back feature is configured	check that you receive call-back notification on your Cisco Unified IP Phone when a called party/line becomes available	<input checked="" type="checkbox"/>	
Call Pickup	Validate if a call pickup group is configured	Check if we ring to a specific group of IP phones that any single phone of the group can pick up the call	<input checked="" type="checkbox"/>	
Three-way conference	Validate the conference calls configurations	Check to make a conference call among three IP phones	<input checked="" type="checkbox"/>	
Don't disturb	Validate the configuration of don't disturb mode	By pressing a DND soft key on IP phone, this will activate don't disturb mode for this phone	<input checked="" type="checkbox"/>	
Last Number redial	Validate the configuration of last number redial	Check soft key of redial last number on IP phone GUI and make a call	<input checked="" type="checkbox"/>	
Call Waiting	Validate the configuration of call waiting configuration	Setup a call for an on-call IP phone and check the call waiting availability	<input checked="" type="checkbox"/>	



HitekNOFAL Solutions

Hunt List

Validate configuration of Hunt Group list	Setup a call for a pilot Number and check that ringing in all hunt group for pickup	✓	
On call power off	Validate call not be dropped if one power source has failed	✓	
	Check by making a phone call is active while disconnecting one of switch power source		

Cabinets Test

Test Title	Test procedure	Acceptance criteria	Test results		Notes
			Pass	Fail	
Cabinet Arrangement	Validate cabinet arrangement as per Approved drawings	Check if all active components are installed in rack as per rack layout configuration	✓		
Doors locks	Visual check for all doors locks for racks	Check and test locks for rack doors that are operational with keys			
Labels	Validate all rack equipment labels	Check that all active devices and passive cords have labels also Rack			
Fans	Validate all Fan operations for rack	Check power to all rack fan units and that it operates normally			
Grounding	Validate that earthing is connected	Check earthing connection of Rack is connected to its body	✓		
Wiring	Validate Internal Wiring as per approved drawings	Check all internal wiring inside rack as per approved and test all connectivity to active components.	✓		



HitekNOFAL Solutions

IP Schema

IP Phone	MAC Address	IP Address	Comment
IP Phone #1		172.16.30.650	
IP Phone #2		172.16.30.651	
IP Phone #3		172.16.30.652	
IP Phone #4		172.16.30.653	
IP Phone #5		172.16.30.654	
IP Phone #6		172.16.30.655	
IP Phone #7		172.16.30.656	
Panasonic Analog Phone		172.16.30.657	
FHF Outdoor Telephone Set-1		172.16.30.658	
FHF Outdoor Telephone Set-2		172.16.30.659	



HitekNOFAL Solutions

Active Components IP Schema:

#	Active Device	IP Address
1	Cisco Catalyst 9200 Core Switch	172.16.30.254
2	BE6K ESXI Virtual Server	172.16.30.251
3	BE6K CUCM server	172.16.30.250
4	BE6K CIMC Server Management	172.16.30.252
5	CISCO VG 310 Management	172.16.30.253
6	CISCO 8841 IP Phones and Analog Phones	172.16.30.50 - 70
7	Data VLAN	172.17.30.0/24
8	CISCO 4321 ISR Router	172.18.30.0/24



HitekNOFAL Solutions

Dial Plan

#	IP Phone	DN	
1	IP Phone #1	301	Office 1 Office 2
2	IP Phone #2	302	Office 2
3	IP Phone #3	303	Control room
4	IP Phone #4	304	Telecom room
5	IP Phone #5	305	Security room
6	IP Phone #6	306	Switch gear 1
7	IP Phone #7	307	Switch gear 2
8	FHF Outdoor Telephone Set-1	310	
9	FHF Outdoor Telephone Set-2	311	
10	Panasonic Analog Phone	312,313	guard room



6. Punch list report

No.	
1-	Tables shall be installed (Indoor & outdoor)
2-	Lisences for IP phones shall be installed.

EAPP
 Mohamed Husein
 4-11-2021
 Mohamed Ali
 4/11/2021
 Mohamed Ali
 4-11-2021
 PPC
 Mohamed Omar
 4-11-2021

Client	Signature	M. Omar
Name	Mohamed Omar	
Job Title**		
Date	4-11-2021	

HitekNOFAL	Signature	A. Ali
Name	System Engineer	
Job Title**		
Date	4/11/2021	

ENPPI	Signature	M. Husein
Name	Salim Husein Tawfik	
Job Title**	Specialist Telecom Engineer	
Date	4/11/2021	

8. Table of signature





LINKWARE™ PC
CABLE TEST MANAGEMENT SOFTWARE

Total Length: 291.1 m
Number of Reports: 13
Number of Passing Reports: 13
Number of Failing Reports: 0
Number of Warning Reports: 0
Documentation Only: 0

Cable ID: 001

Test Limit: TIA Cat 6 Channel

Limits Version: V7.6

Date / Time: 10/21/2021 10:33:01 AM

Operator: aymn abd mawgoud

Headroom 5.0 dB (NEXT 1,2,4,5)

Cable Type: Cat 6 U/UTP

NVP: 69.0%

Length (m), Limit 100.0	[Pair 1,2]	12.8
Prop. Delay (ns), Limit 555	[Pair 4,5]	66
Delay Skew (ns), Limit 50	[Pair 3,6]	4
Resistance (ohms)	[Pair 3,6]	2.26
Insertion Loss Margin (dB)	[Pair 3,6]	31.4
Frequency (MHz)	[Pair 3,6]	250.0
Limit (dB)	[Pair 3,6]	35.9

Worst Case Margin Worst Case Value

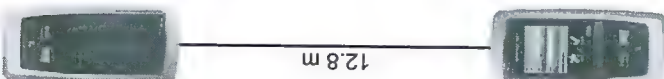
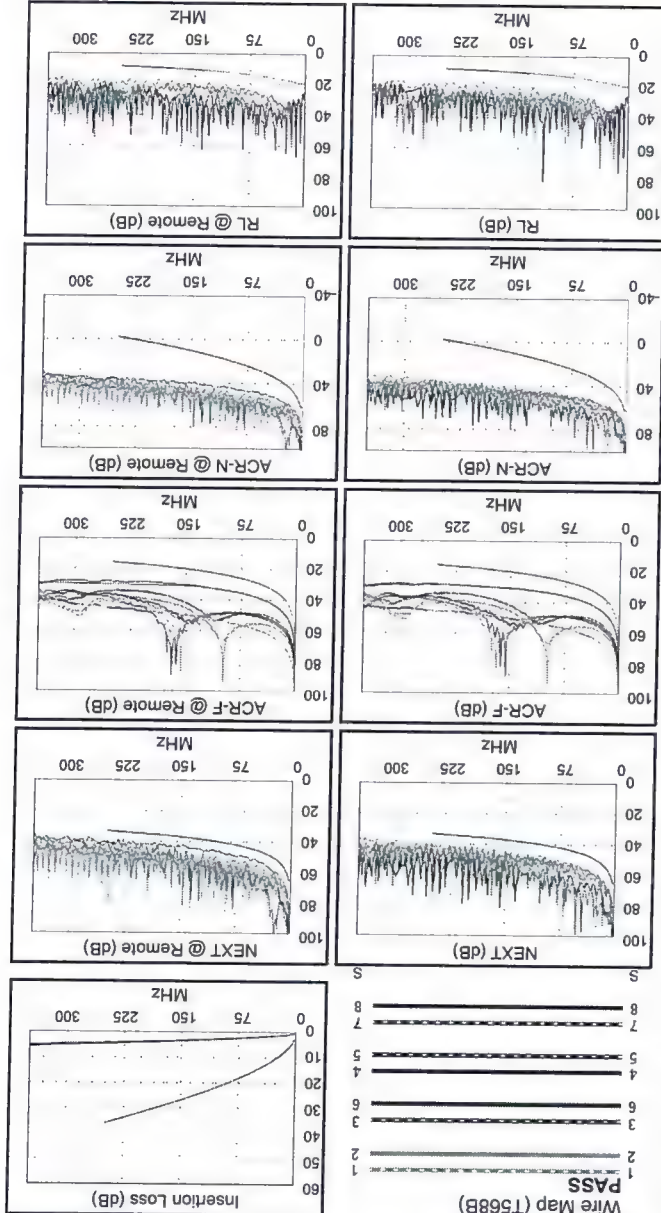
PASS	MAIN	SR
Worst Pair	3,6-4,5	1,2-4,5
NEXT (dB)	6.2	5.0
Freq. (MHz)	197.0	146.5
Limit (dB)	34.9	37.1
Worst Pair	3,6	4,5
PS NEXT (dB)	6.5	6.1
Freq. (MHz)	197.0	228.0
Limit (dB)	32.0	30.9
PASS	MAIN	SR

PASS	MAIN	SR
Worst Pair	3,6-4,5	4,5
ACR-F (dB)	9.4	9.4
Freq. (MHz)	53.0	63.8
Limit (dB)	28.8	27.2
Worst Pair	4,5	4,5
PS ACR-F (dB)	11.5	11.6
Freq. (MHz)	7.0	14.8
Limit (dB)	43.4	36.9
N/A	MAIN	SR

N/A	MAIN	SR
Worst Pair	1,2-4,5	1,2-3,6
ACR-N (dB)	14.3	38.2
Freq. (MHz)	3.0	4.5
Limit (dB)	61.5	58.0
Worst Pair	4,5	4,5
PS ACR-N (dB)	14.1	38.5
Freq. (MHz)	7.5	7.1
Limit (dB)	50.6	51.1
PASS	MAIN	SR

PASS	MAIN	SR
Worst Pair	1,2	1,2
RL (dB)	7.8	7.6
Freq. (MHz)	199.5	240.0
Limit (dB)	9.0	8.2
PASS	MAIN	SR

Compliant Network Standards:
 100BASE-T
 100BASE-TX
 2.5GBASE-T
 ATM-51
 TR-4
 TR-16 Passive
 100VG-AnyLan
 ATM-25
 100BASE-T
 100BASE-T4
 5GBASE-T
 ATM-155
 TR-16 Active



12.8 m

Wire Map (T568B)

Main: Versiv
 S/N: 3089167

Software Version: V6.6 Build 2
 Calibration Date: 12/20/2020
 Adapter: DSX-5000 (DSX-PLA004)
 S/N: 4534040

Remote: Versiv
 S/N: 3057139

Software Version: V6.6 Build 2
 Calibration Date: 12/20/2020
 Adapter: DSX-5000R (DSX-PLA004)
 S/N: 4534039

Test Summary: PASS



Cable ID: 002

Test Limit: TIA Cat 6 Channel

Limits Version: V7.6

Date / Time: 10/21/2021 11:19:05 AM

Operator: aymn abd mawgoud

Headroom 6.2 dB (NEXT 3,6-4,5)

Cable Type: Cat 6 U/UTP

NVP: 69.0%

Length (m), Limit 100.0	[Pair 1,2]	14.9
Prop. Delay (ns), Limit 555	[Pair 4,5]	77
Delay Skew (ns), Limit 50	[Pair 4,5]	5
Resistance (ohms)	[Pair 3,6]	2.59
Insertion Loss Margin (dB)	[Pair 3,6]	30.8
Frequency (MHz)	[Pair 3,6]	249.5
Limit (dB)	[Pair 3,6]	35.9

Worst Case Margin Worst Case Value

PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5	3,6-4,5	3,6-4,5
NEXT (dB)	6.2	7.9	14.7	14.7
Freq. (MHz)	112.0	144.5	243.5	203.0
Limit (dB)	39.1	37.2	33.3	34.7
Worst Pair	4,5	4,5	4,5	4,5
PS NEXT (dB)	7.9	7.5	9.1	9.4
Freq. (MHz)	26.4	40.0	243.5	244.0
Limit (dB)	47.0	43.9	30.4	30.3

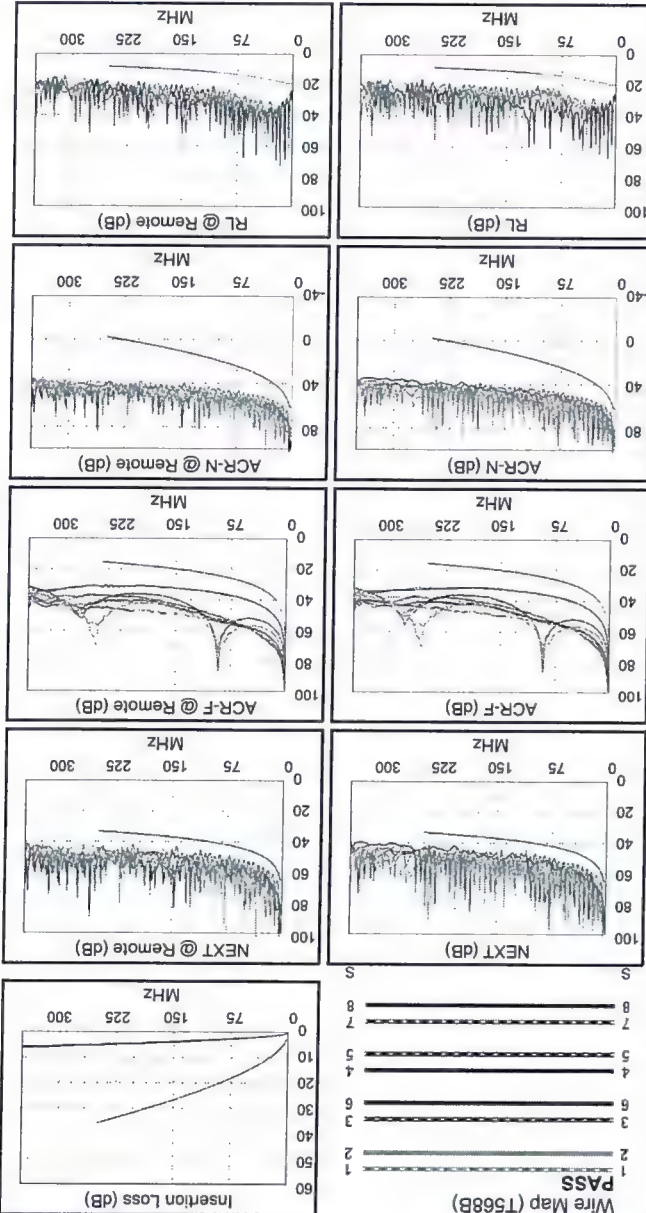
PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	4,5-3,6	4,5-3,6	3,6-4,5
ACR-F (dB)	10.7	10.7	14.6	14.7
Freq. (MHz)	7.5	7.5	244.5	244.5
Limit (dB)	45.8	45.8	15.5	15.5
Worst Pair	4,5	4,5	3,6	4,5
PS ACR-F (dB)	12.8	13.0	16.5	15.2
Freq. (MHz)	1.4	7.0	244.5	202.0
Limit (dB)	57.5	43.4	12.5	14.1

N/A	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5	3,6-4,5	3,6-4,5
ACR-N (dB)	10.9	11.0	38.4	34.7
Freq. (MHz)	6.8	6.5	243.5	203.0
Limit (dB)	54.2	54.5	-2.1	2.9
Worst Pair	4,5	4,5	3,6	4,5
PS ACR-N (dB)	12.4	12.4	39.6	39.9
Freq. (MHz)	6.5	6.5	243.5	244.0
Limit (dB)	52.0	52.0	-5.0	-5.1

PASS	MAIN	SR	MAIN	SR
Worst Pair	7,8	7,8	7,8	7,8
RL (dB)	8.4	9.3	10.0	9.3
Freq. (MHz)	108.0	209.5	209.5	209.5
Limit (dB)	11.7	8.8	8.4	8.8

Compliant Network Standards:
10BASE-T
100BASE-TX
2.5GBASE-T
5GBASE-T
ATM-155
ATM-51
TR-4
TR-16 Passive
100VG-Anylan
ATM-25

Project: ENPPI AGROOD-30
Agrood 30.fw



Test Summary: PASS

Remote: Versi

S/N: 3057139

Software Version: V6.6 Build 2

Calibration Date: 12/20/2020

Adapter: DSX-5000R (DSX-PLA004)

S/N: 4534040

Main: Versi

S/N: 3089167

Software Version: V6.6 Build 2

Calibration Date: 12/20/2020

Adapter: DSX-5000 (DSX-PLA004)

S/N: 4534039





Cable ID: 003

Test Limit: TIA Cat 6 Channel

Limits Version: V7.6

Date / Time: 10/21/2021 11:26:36 AM

Operator: aymn abd mawgoud

Headroom: 5.3 dB (NEXT 3,6-4,5)

Cable Type: Cat 6 U/UTP

NVP: 69.0%

Length (m), Limit 100.0	[Pair 7,8]	11.6
Prop. Delay (ns), Limit 555	[Pair 4,5]	61
Delay Skew (ns), Limit 50	[Pair 4,5]	5
Resistance (ohms)	[Pair 3,6]	2.08
Insertion Loss Margin (dB)	[Pair 3,6]	31.8
Frequency (MHz)	[Pair 3,6]	250.0
Limit (dB)	[Pair 3,6]	35.9

Worst Case Margin Worst Case Value

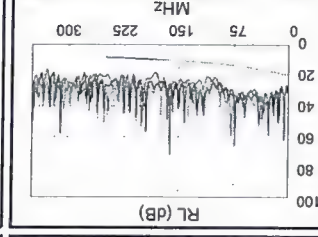
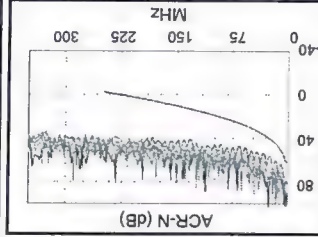
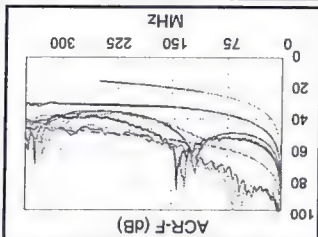
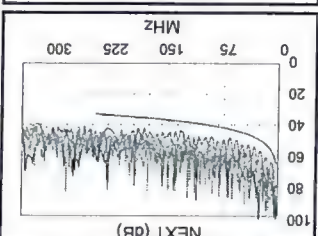
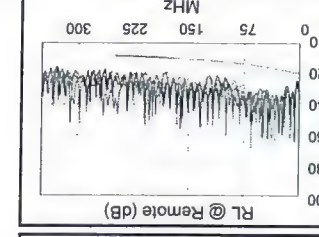
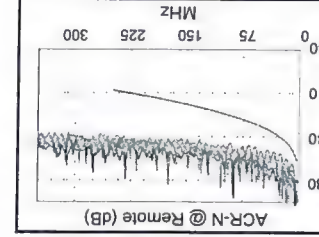
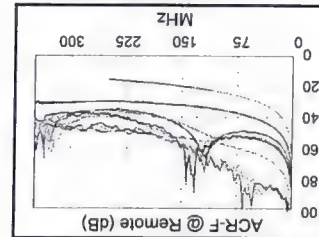
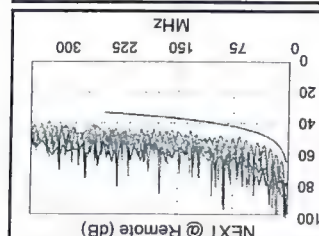
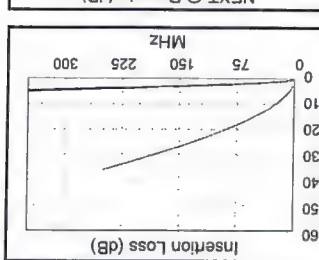
PASS	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5
NEXT (dB)	5.3	6.3
Freq. (MHz)	132.5	67.0
Limit (dB)	37.8	42.9
Worst Pair	4,5	3,6
PS NEXT (dB)	7.7	8.9
Freq. (MHz)	33.5	233.5
Limit (dB)	45.2	30.7

PASS	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5
ACR-F (dB)	11.2	13.3
Freq. (MHz)	8.5	76.8
Limit (dB)	44.7	25.6
Worst Pair	4,5	4,5
PS ACR-F (dB)	13.1	13.1
Freq. (MHz)	8.5	9.1
Limit (dB)	41.7	41.1

N/A	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5
ACR-N (dB)	12.2	12.5
Freq. (MHz)	8.4	8.5
Limit (dB)	52.0	51.9
Worst Pair	4,5	4,5
PS ACR-N (dB)	13.8	13.9
Freq. (MHz)	8.4	8.4
Limit (dB)	49.5	49.5

PASS	MAIN	SR
Worst Pair	MAIN	SR
RL (dB)	8.2	9.3
Freq. (MHz)	182.0	179.5
Limit (dB)	9.4	9.5

Compliant Network Standards:
10BASE-T
100BASE-T
100BASE-TX
2.5GBASE-T
ATM-51
TR-4
TR-16 Passive
100VG-AnyLAN
ATM-25
ATM-155
ATM-155
5GBASE-T
10GBASE-T4
TR-16 Active



Test Summary: PASS

Remote: Versiv

S/N: 3057139

Software Version: V6.6 Build 2

Calibration Date: 12/20/2020

Adapter: DSX-5000R (DSX-PLA004)

S/N: 4534040

Main: Versiv

S/N: 3089167

Software Version: V6.6 Build 2

Calibration Date: 12/20/2020

Adapter: DSX-5000 (DSX-PLA004)

S/N: 4534039

Cable ID: 004

Test Limit: TIA Cat 6 Channel

Limits Version: V7.6

Date / Time: 10/21/2021 10:46:50 AM

Operator: aymn abd mawgoud

Headroom 6.3 dB (NEXT 1,2-4,5)

Cable Type: Cat 6 U/UTP

NVP: 69.0%

Length (m), Limit 100.0	[Pair 7,8]	14.9
Prop. Delay (ns), Limit 555	[Pair 4,5]	78
Delay Skew (ns), Limit 50	[Pair 4,5]	6
Resistance (ohms)	[Pair 4,5]	2.53
Insertion Loss Margin (dB)	[Pair 3,6]	30.8
Frequency (MHz)	[Pair 3,6]	249.0
Limit (dB)	[Pair 3,6]	35.9

Worst Case Margin Worst Case Value

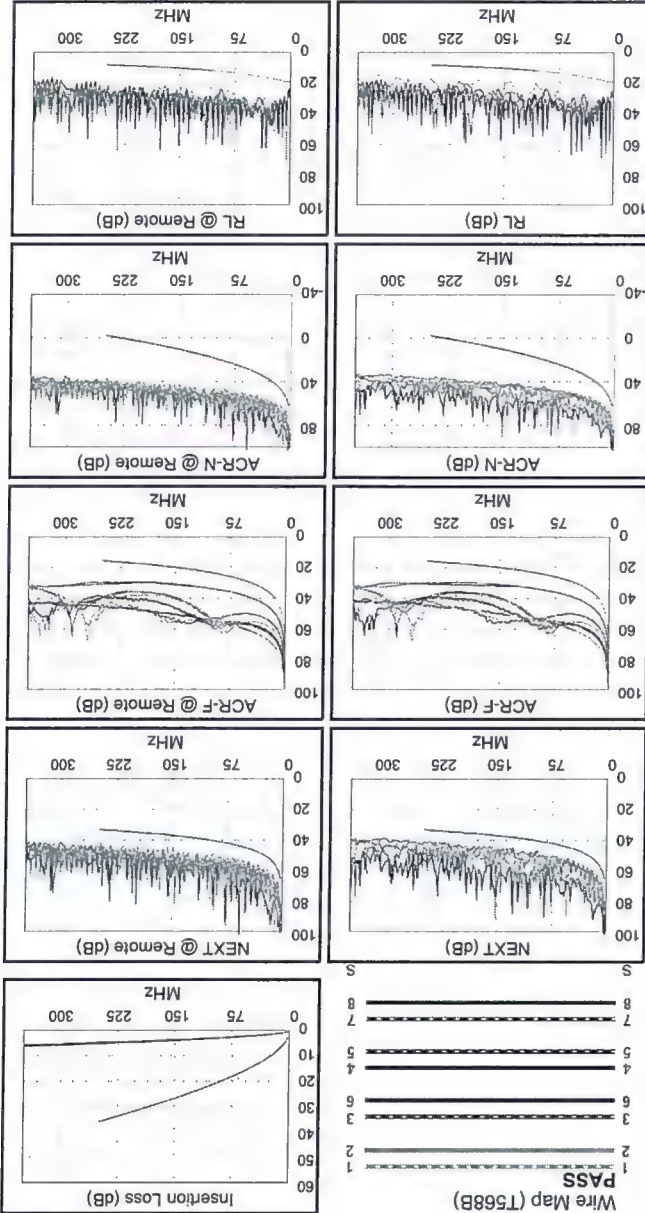
PASS	MAIN	SR	MAIN	SR
Worst Pair	1,2-4,5	4,5-7,8	3,6-4,5	3,6-4,5
NEXT (dB)	6.3	7.8	6.3	8.7
Freq. (MHz)	243.0	68.0	243.0	235.5
Limit (dB)	33.3	42.8	33.3	33.6
Worst Pair	4,5	4,5	4,5	4,5
PS NEXT (dB)	6.0	7.9	6.9	10.0
Freq. (MHz)	96.0	20.1	243.0	249.5
Limit (dB)	37.4	48.9	30.4	30.2

PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5	3,6-4,5	4,5-3,6
ACR-F (dB)	9.6	9.6	13.5	13.5
Freq. (MHz)	7.3	7.3	244.5	244.5
Limit (dB)	46.1	46.1	15.5	15.5
Worst Pair	4,5	4,5	4,5	4,5
PS ACR-F (dB)	11.8	11.8	13.9	207.5
Freq. (MHz)	7.3	7.3	208.5	13.9
Limit (dB)	43.1	43.1	13.9	13.9

N/A	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5	1,2-4,5	3,6-4,5
ACR-N (dB)	12.3	12.7	36.7	40.0
Freq. (MHz)	6.4	6.5	243.0	248.0
Limit (dB)	54.7	54.5	-2.0	-2.6
Worst Pair	4,5	4,5	4,5	4,5
PS ACR-N (dB)	12.7	13.1	38.2	40.9
Freq. (MHz)	6.5	6.5	250.0	249.5
Limit (dB)	52.0	52.0	-5.8	-5.7

PASS	MAIN	SR	MAIN	SR
Worst Pair	1,2	1,2	1,2	4,5
RL (dB)	8.5	10.2	9.0	12.6
Freq. (MHz)	142.5	106.5	250.0	219.5
Limit (dB)	10.5	11.7	8.0	8.6

Compliant Network Standards:
10BASE-T
100BASE-T
1000BASE-T
2.5GBASE-T
ATM-51
TR-4
TR-16 Passive
100V-G-Anylan
ATM-25
ATM-155
5GBASE-T
100BASE-T4
TR-16 Active



14.9 m

Test Summary: PASS

Remote: Versiv

S/N: 3057139

Software Version: V6.6 Build 2

Calibration Date: 12/20/2020

Adapter: DSX-5000R (DSX-PLA004)

S/N: 4534039

Main: Versiv

S/N: 3089167

Software Version: V6.6 Build 2

Calibration Date: 12/20/2020

Adapter: DSX-5000 (DSX-PLA004)

S/N: 4534040

Cable ID: 005

Test Limit: TIA Cat 6 Channel

Limits Version: V7.6

Date / Time: 10/21/2021 10:49:14 AM

Operator: asym abd mawgoud

Headroom 1.0 dB (NEXT 3,6-4,5)

Cable Type: Cat 6 U/UTP

NVP: 69.0%

Length (m), Limit 100.0	[Pair 1,2]	13.7
Prop. Delay (ns), Limit 555	[Pair 4,5]	71
Delay Skew (ns), Limit 50	[Pair 4,5]	5
Resistance (ohms)	[Pair 4,5]	2.46
Insertion Loss Margin (dB)	[Pair 3,6]	31.2
Frequency (MHz)	[Pair 3,6]	250.0
Limit (dB)	[Pair 3,6]	35.9

Worst Case Margin Worst Case Value

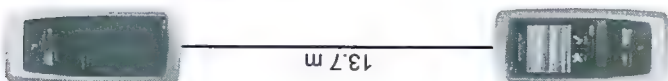
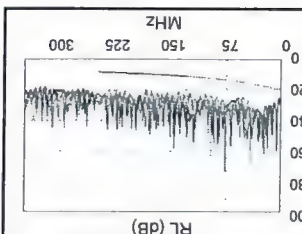
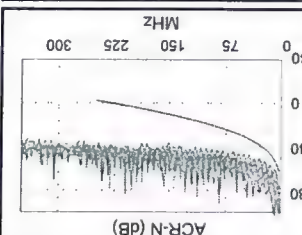
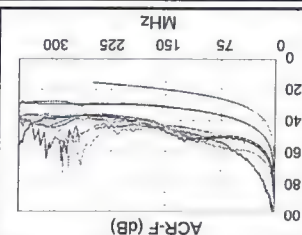
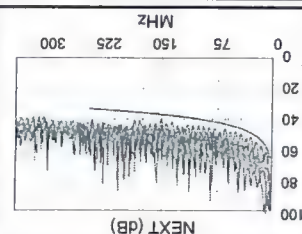
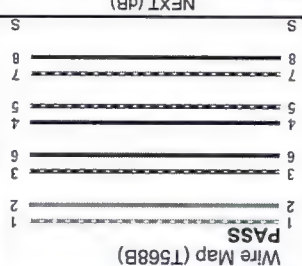
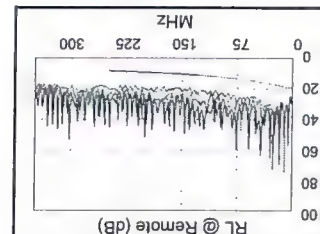
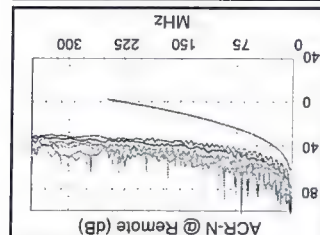
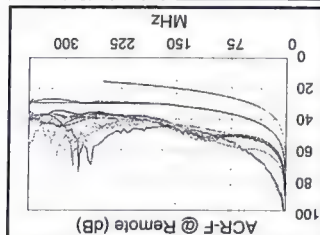
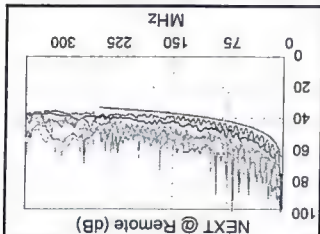
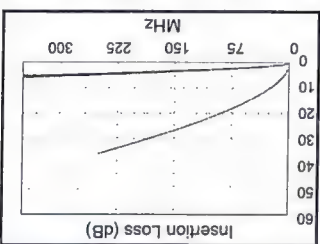
PASS	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5
NEXT (dB)	3.0	1.0
Freq. (MHz)	28.6	136.0
Limit (dB)	49.1	37.7
Worst Pair	4,5	3,6
PS NEXT (dB)	50.3	136.5
Freq. (MHz)	42.2	34.7
Limit (dB)	30.3	30.3

PASS	MAIN	SR
Worst Pair	3,6-4,5	4,5
ACR-F (dB)	10.4	10.4
Freq. (MHz)	58.8	59.5
Limit (dB)	27.9	27.8
Worst Pair	4,5	3,6
PS ACR-F (dB)	12.8	15.3
Freq. (MHz)	250.0	250.0
Limit (dB)	15.3	15.3

N/A	MAIN	SR
Worst Pair	3,6-4,5	1,2-7,8
ACR-N (dB)	7.8	39.2
Freq. (MHz)	7.4	30.5
Limit (dB)	54.0	2.2
Worst Pair	3,6	1,2
PS ACR-N (dB)	10.2	39.6
Freq. (MHz)	7.1	246.0
Limit (dB)	51.1	-5.3

PASS	MAIN	SR
Worst Pair	1,2	3,6
RL (dB)	10.8	8.0
Freq. (MHz)	130.0	183.5
Limit (dB)	8.4	8.4

Compliant Network Standards:
100BASE-T
100BASE-T4
2.5GBASE-T
ATM-51
TR-4
TR-16 Passive
100VG-AnyLan
ATM-25
ATM-155
100BASE-T
5GBASE-T
ATM-155
TR-16 Active



13.7 m

Test Summary: PASS
Remote: Versiv S/N: 3057139
Software Version: V6.6 Build 2
Calibration Date: 12/20/2020
Adapter: DSX-5000R (DSX-PLA004) S/N: 4534039
Main: Versiv S/N: 3089167
Software Version: V6.6 Build 2
Calibration Date: 12/20/2020
Adapter: DSX-5000 (DSX-PLA004) S/N: 4534040



Cable ID: 006

Test Limit: TIA Cat 6 Channel

Limits Version: V7.6

Date / Time: 10/21/2021 10:50:12 AM

Operator: aymn abd mawgoud

Headroom: 1.1 dB (NEXT 3.6-7.8)

Cable Type: Cat 6 U/UTP

NVP: 69.0%

Length (m), Limit 100.0	[Pair 7.8]	32.5
Prop. Delay (ns), Limit 555	[Pair 4.5]	168
Delay Skew (ns), Limit 50	[Pair 4.5]	11
Resistance (ohms)	[Pair 3.6]	5.40
Insertion Loss Margin (dB)	[Pair 3.6]	25.3
Frequency (MHz)	[Pair 3.6]	250.0
Limit (dB)	[Pair 3.6]	35.9

Worst Case Margin Worst Case Value

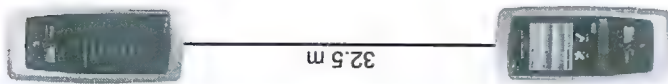
PASS	MAIN	SR
Worst Pair	3.6-4.5	3.6-7.8
NEXT (dB)	5.9	1.1
Freq. (MHz)	105.0	76.8
Limit (dB)	39.6	41.9
Worst Pair	3.6	7.8
PS NEXT (dB)	6.4	2.5
Freq. (MHz)	14.8	92.5
Limit (dB)	51.2	37.7

PASS	MAIN	SR
Worst Pair	4.5-3.6	3.6-4.5
ACR-F (dB)	11.8	14.6
Freq. (MHz)	14.1	248.5
Limit (dB)	40.3	15.4
Worst Pair	4.5	4.5
PS ACR-F (dB)	13.2	16.4
Freq. (MHz)	3.1	250.0
Limit (dB)	50.4	48.5

N/A	MAIN	SR
Worst Pair	3.6-7.8	1.2-7.8
ACR-N (dB)	10.7	8.9
Freq. (MHz)	4.3	14.1
Limit (dB)	58.5	46.6
Worst Pair	3.6	3.6
PS ACR-N (dB)	11.6	10.1
Freq. (MHz)	3.3	14.5
Limit (dB)	58.4	43.7

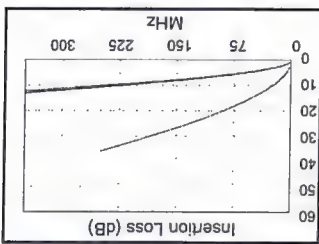
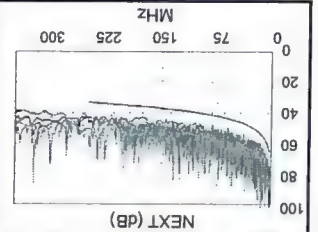
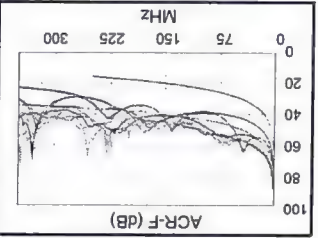
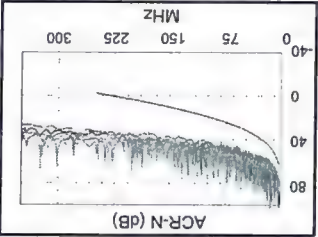
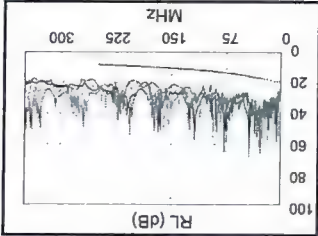
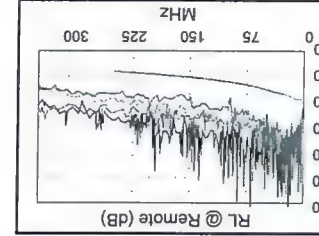
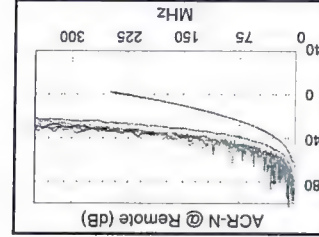
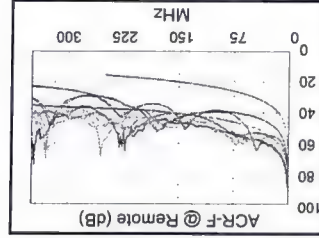
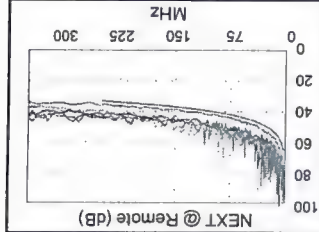
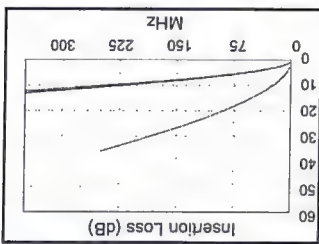
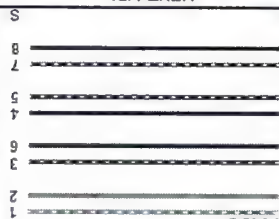
PASS	MAIN	SR
Worst Pair	7.8	7.8
RL (dB)	9.1	6.5
Freq. (MHz)	205.0	97.0
Limit (dB)	8.9	12.1

Compliant Network Standards:
100BASE-T
1000BASE-T
2.5GBASE-T
ATM-51
TR-4
TR-16 Passive
100VG-AnyLAN
ATM-25
ATM-155
5GBASE-T
100BASE-T4
TR-16 Active



32.5 m

Wire Map (T568B)



Test Summary: PASS

Remote: Versiv
S/N: 3057139

Software Version: V6.6 Build 2

Calibration Date: 12/20/2020

Adapter: DSX-5000R (DSX-PLA004)
S/N: 4534039

Adapter: DSX-5000 (DSX-PLA004)
S/N: 4534040

Software Version: V6.6 Build 2

Calibration Date: 12/20/2020

Main: Versiv
S/N: 3089167



Test Summary: PASS

Remote: Versiv
S/N: 3057139
Software Version: V6.6 Build 2
Calibration Date: 12/20/2020
Adapter: DSX-5000R (DSX-PLA004)
S/N: 4534039

Main: Versiv
S/N: 3089167
Software Version: V6.6 Build 2
Calibration Date: 12/20/2020
Adapter: DSX-5000 (DSX-PLA004)
S/N: 4534040

Cable ID: 007
Test Limit: TIA Cat 6 Channel
Limits Version: V7.6
Date / Time: 10/21/2021 10:51:02 AM
Operator: aymn abd mawgoud
Headroom 4.9 dB (NEXT 3,6-4,5)
Cable Type: Cat 6 U/UTP
NVP: 69.0%

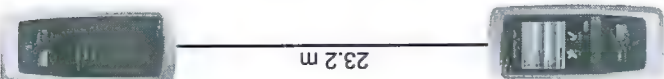
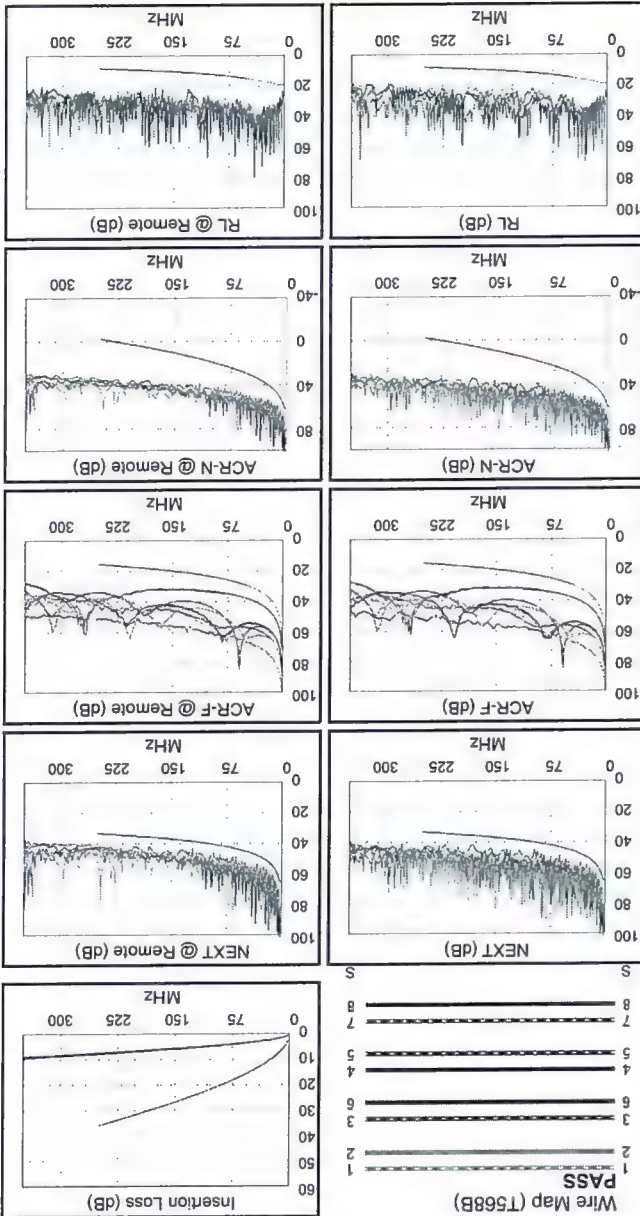
Length (m), Limit 100.0	[Pair 7,8]	23.2
Prop. Delay (ns), Limit 555	[Pair 4,5]	121
Delay Skew (ns), Limit 50	[Pair 4,5]	9
Resistance (ohms)	[Pair 4,5]	3.90
Insertion Loss Margin (dB)	[Pair 3,6]	28.2
Frequency (MHz)	[Pair 3,6]	250.0
Limit (dB)	[Pair 3,6]	35.9

Worst Case Margin Worst Case Value

PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5	3,6-4,5	3,6-7,8
NEXT (dB)	4.9	5.5	5.7	8.2
Freq. (MHz)	96.8	25.1	185.0	250.0
Limit (dB)	40.2	50.0	35.4	33.1
Worst Pair	3,6	4,5	3,6	7,8
PS NEXT (dB)	7.0	6.9	9.4	7.9
Freq. (MHz)	96.8	134.5	248.0	250.0
Limit (dB)	37.3	34.9	30.2	30.2
PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	4,5-3,6	3,6-4,5	3,6-4,5
ACR-F (dB)	8.1	8.1	12.2	12.4
Freq. (MHz)	30.5	24.0	161.0	165.0
Limit (dB)	33.6	35.7	19.1	18.9
Worst Pair	3,6	3,6	4,5	4,5
PS ACR-F (dB)	10.7	14.7	13.5	13.5
Freq. (MHz)	8.4	7.5	161.0	141.5
Limit (dB)	41.8	42.8	16.1	17.2
N/A	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5	3,6-4,5	3,6-4,5
ACR-N (dB)	10.7	10.8	36.4	36.8
Freq. (MHz)	4.4	4.5	248.0	248.0
Limit (dB)	58.2	58.0	-2.7	-2.7
Worst Pair	4,5	4,5	3,6	3,6
PS ACR-N (dB)	12.2	12.1	37.5	36.6
Freq. (MHz)	4.4	4.4	248.0	248.0
Limit (dB)	55.7	55.7	-5.6	-5.6
PASS	MAIN	SR	MAIN	SR
Worst Pair	1,2	1,2	1,2	1,2
RL (dB)	10.1	10.1	11.0	10.9
Freq. (MHz)	130.5	130.0	212.5	130.0
Limit (dB)	10.8	10.9	8.7	10.9

Compliant Network Standards:

10BASE-T
100BASE-T
100VG-AnyLAN
ATM-25
ATM-51
TR-4
TR-16 Passive
TR-16 Active
100BASE-T4
5GBASE-T
ATM-155
100BASE-TX



Cable ID: 008

Test Limit: TIA Cat 6 Channel

Limits Version: V7.6

Date / Time: 10/21/2021 11:04:38 AM

Operator: aymn abd mawgoud

Headroom 6.2 dB (NEXT 4.5-7.8)

Cable Type: Cat 6 U/UTP

NVP: 69.0%

Length (m), Limit 100.0	[Pair 7.8]	29.2
Prop. Delay (ns), Limit 555	[Pair 4.5]	152
Delay Skew (ns), Limit 50	[Pair 4.5]	11
Resistance (ohms)	[Pair 4.5]	4.91
Insertion Loss Margin (dB)	[Pair 3.6]	26.2
Frequency (MHz)	[Pair 3.6]	250.0
Limit (dB)	[Pair 3.6]	35.9

Worst Case Margin Worst Case Value

PASS	MAIN	SR	MAIN	SR
Worst Pair	4.5-7.8	3.6-4.5	4.5-7.8	3.6-4.5
NEXT (dB)	6.2	7.8	6.2	10.5
Limit (dB)	33.3	46.1	33.3	33.3
Worst Pair	4.5	4.5	4.5	3.6
PS NEXT (dB)	7.4	8.9	8.2	11.2
Limit (dB)	113.0	59.8	243.5	30.6
Freq. (MHz)	36.2	40.9	30.4	30.6

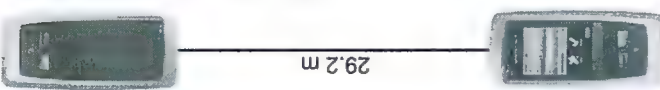
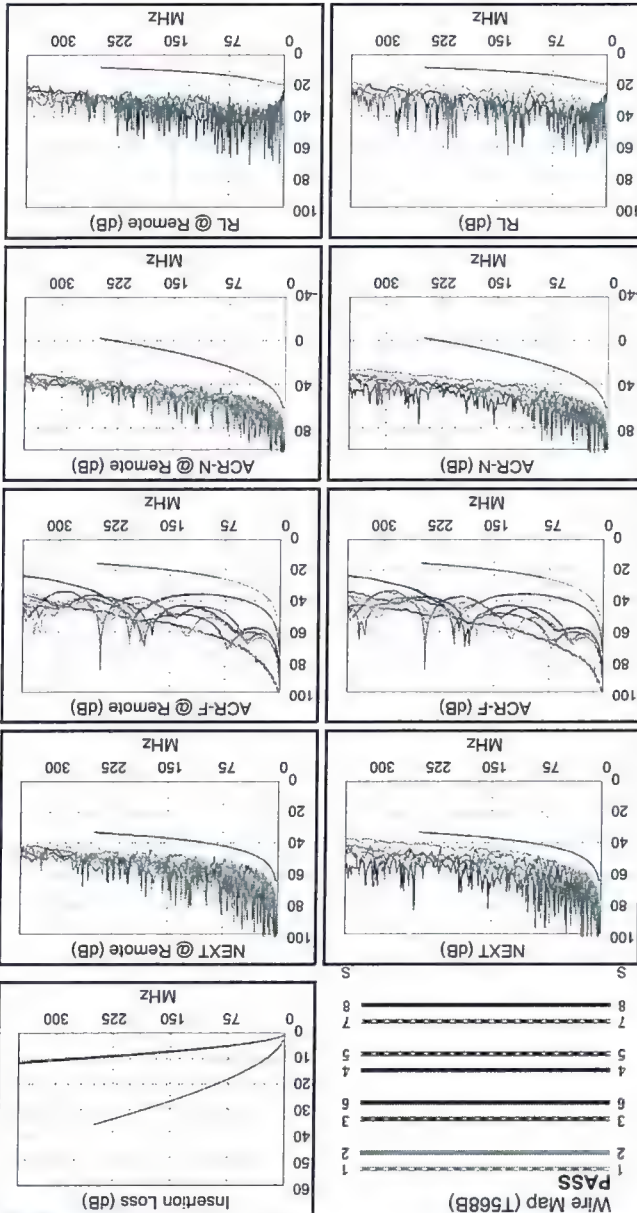
PASS	MAIN	SR	MAIN	SR
Worst Pair	3.6-4.5	3.6-4.5	3.6-4.5	4.5-7.8
ACR-F (dB)	7.0	9.5	18.6	18.5
Limit (dB)	250.0	19.5	250.0	15.3
Worst Pair	3.6	3.6	3.6	3.6
PS ACR-F (dB)	12.1	12.2	19.7	18.9
Limit (dB)	250.0	7.3	250.0	12.3
Freq. (MHz)	47.0	43.1	12.3	12.3

N/A	MAIN	SR	MAIN	SR
Worst Pair	3.6-4.5	4.5-7.8	4.5-7.8	4.5-7.8
ACR-N (dB)	12.9	12.5	32.6	36.9
Limit (dB)	243.5	3.3	243.5	36.9
Worst Pair	4.5	4.5	4.5	4.5
PS ACR-N (dB)	13.9	14.6	34.1	36.5
Limit (dB)	52.2	58.4	234.5	234.5
Freq. (MHz)	6.4	3.3	243.5	243.5

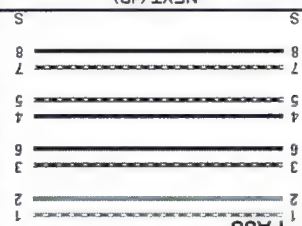
PASS	MAIN	SR	MAIN	SR
Worst Pair	1.2	1.2	1.2	1.2
RL (dB)	8.6	13.2	10.2	14.6
Limit (dB)	103.0	49.5	246.0	213.0
Freq. (MHz)	11.9	15.1	8.1	8.7

Compliant Network Standards:
100BASE-T4
100BASE-TX
2.5GBASE-T
5GBASE-T
ATM-155
ATM-51
TR-4
100VG-AnyLAN
TR-16 Passive

Project: ENPPI AGROOD-30
Agrood 30.fiw



Wire Map (T568B)



Test Summary: PASS

Main: Versiv
S/N: 3089167
Software Version: V6.6 Build 2
Calibration Date: 12/20/2020
Adapter: DSX-5000 (DSX-PLA004)
S/N: 4534039

Remote: Versiv
S/N: 3057139
Software Version: V6.6 Build 2
Calibration Date: 12/20/2020
Adapter: DSX-5000R (DSX-PLA004)
S/N: 4534040

Cable ID: 009

Test Limit: T1A Cat 6 Channel

Limit Version: V7.6

Date / Time: 10/21/2021 11:05:02 AM

Operator: aymn abd mawgoud
Headroom 3.2 dB (NEXT 4.5-7.8)

Cable Type: Cat 6 U/UTP-

NVP: 69.0%

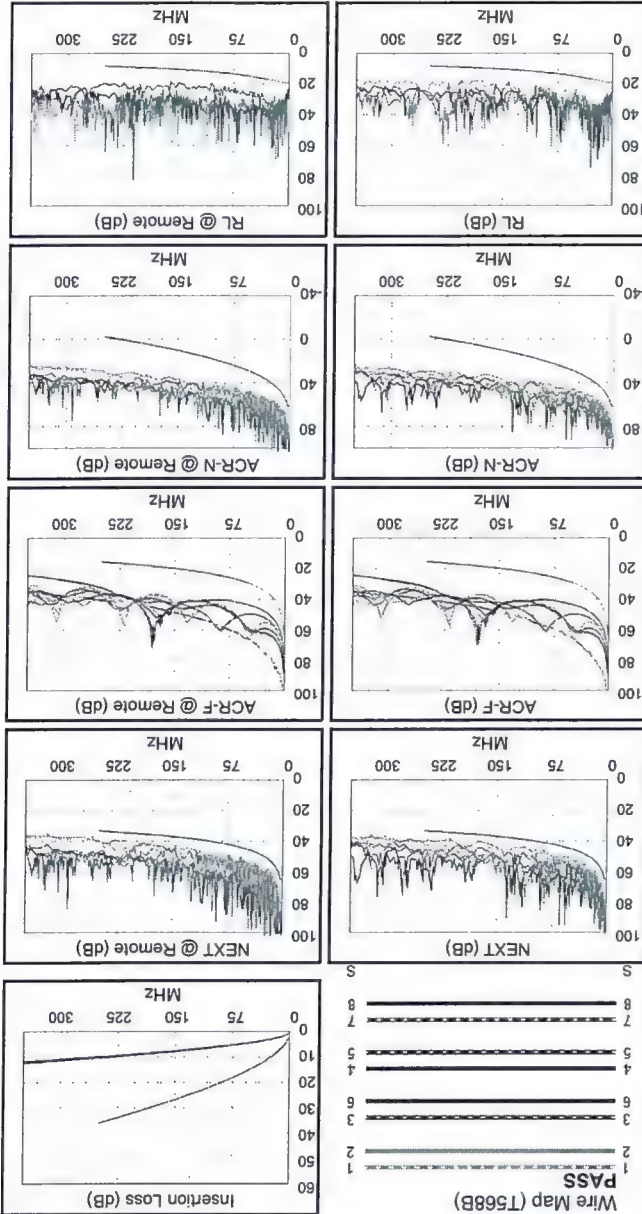
Length (m), Limit 100.0	[Pair 1,2]	31.0
Prop. Delay (ns), Limit 555	[Pair 4,5]	161
Delay Skew (ns), Limit 50	[Pair 4,5]	11
Resistance (ohms)	[Pair 3,6]	5.11
Insertion Loss Margin (dB)	[Pair 3,6]	25.7
Frequency (MHz)	[Pair 3,6]	250.0
Limit (dB)	[Pair 3,6]	35.9

Worst Case Margin Worst Case Value

PASS	MAIN	SR	MAIN	SR
Worst Pair	4.5-7.8	1.2-3.6	4.5-7.8	4.5-7.8
NEXT (dB)	3.2	4.2	4.3	5.3
Freq. (MHz)	87.8	191.0	241.5	248.0
Limit (dB)	40.9	35.1	33.4	33.2
Worst Pair	4.5	4.5	4.5	3.6
PS NEXT (dB)	5.3	6.3	6.7	7.6
Freq. (MHz)	113.5	202.0	241.5	246.5
Limit (dB)	36.1	31.8	30.4	30.3
PASS	MAIN	SR	MAIN	SR
Worst Pair	3.6-4.5	3.6-4.5	3.6-4.5	3.6-4.5
ACR-F (dB)	13.2	13.2	16.7	16.8
Freq. (MHz)	15.1	22.4	250.0	250.0
Limit (dB)	39.7	36.3	15.3	15.3
Worst Pair	4.5	4.5	4.5	4.5
PS ACR-F (dB)	14.1	14.1	17.2	17.1
Freq. (MHz)	2.9	3.5	250.0	250.0
Limit (dB)	51.1	49.4	12.3	12.3
N/A	MAIN	SR	MAIN	SR
Worst Pair	4.5-7.8	4.5-7.8	1.2-3.6	4.5-7.8
ACR-N (dB)	11.2	11.6	30.1	31.3
Freq. (MHz)	6.0	6.3	241.5	247.0
Limit (dB)	55.3	54.9	-1.8	-2.5
Worst Pair	4.5	4.5	3.6	3.6
PS ACR-N (dB)	12.1	12.6	31.9	33.2
Freq. (MHz)	12.5	12.5	241.5	246.5
Limit (dB)	45.3	45.3	-4.8	-5.4
PASS	MAIN	SR	MAIN	SR
Worst Pair	1.2	7.8	1.2	7.8
RL (dB)	7.9	7.2	8.4	8.0
Freq. (MHz)	141.0	106.0	207.5	160.5
Limit (dB)	10.5	11.7	8.8	9.9

Compliant Network Standards:

10BASE-T	100BASE-TX
100BASE-T	2.5GBASE-T
ATM-25	ATM-51
100VG-Anylan	TR-4
TR-16 Passive	TR-16 Active
100BASE-T	5GBASE-T
ATM-155	



31.0 m



Wire Map (T568B)



Test Summary: PASS

Remote: Versiv
S/N: 3057139

Software Version: V6.6 Build 2

Calibration Date: 12/20/2020

Adapter: DSX-5000R (DSX-PLA004)

S/N: 4534040

Main: Versiv

S/N: 3089167

Software Version: V6.6 Build 2

Calibration Date: 12/20/2020

Adapter: DSX-5000 (DSX-PLA004)

S/N: 4534039

Cable ID: 010

Test Limit: T1A Cat 6 Channel

Limit: Version: V7.6

Date / Time: 10/21/2021 11:10:56 AM

Operator: aymn abd mawgoud

Headroom 5.3 dB (NEXT 3,6,4,5)

Cable Type: Cat 6 U/UTP

NVP: 69.0%

Length (m), Limit 100.0	[Pair 7,8]	32.3
Prop. Delay (ns), Limit 555	[Pair 4,5]	168
Delay Skew (ns), Limit 50	[Pair 4,5]	12
Resistance (ohms)	[Pair 4,5]	5.34
Insertion Loss Margin (dB)	[Pair 3,6]	25.3
Frequency (MHz)	[Pair 3,6]	250.0
Limit (dB)	[Pair 3,6]	35.9

Worst Case Margin Worst Case Value

PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5	1,2-3,6	1,2-4,5
NEXT (dB)	5.3	6.0	5.8	8.9
Freq. (MHz)	51.3	11.9	226.5	230.5
Limit (dB)	44.8	55.4	33.9	33.7
Worst Pair	3,6	4,5	3,6	1,2
PS NEXT (dB)	7.2	7.8	8.1	9.7
Freq. (MHz)	51.3	226.5	51.3	226.5
Limit (dB)	42.1	42.1	30.9	30.4

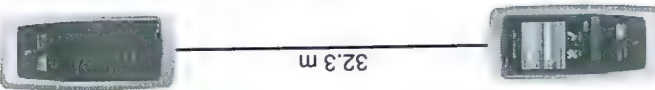
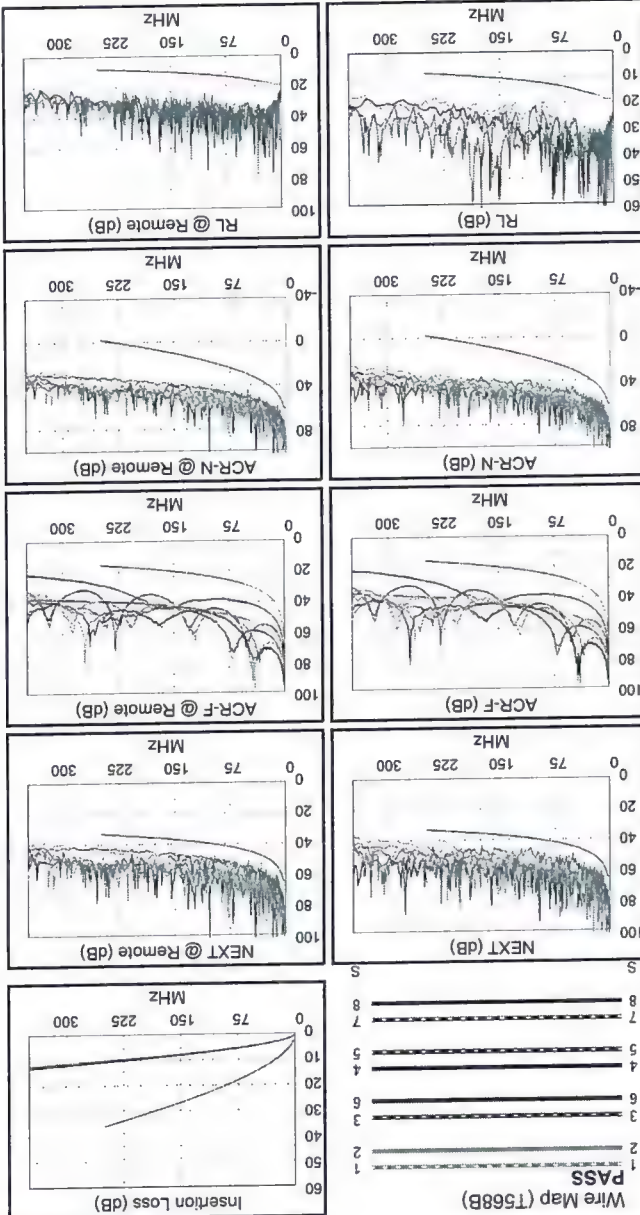
PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5	3,6-4,5	3,6-4,5
ACR-F (dB)	10.6	10.6	12.9	12.9
Freq. (MHz)	8.5	14.8	249.0	249.0
Limit (dB)	44.7	39.9	15.3	15.3
Worst Pair	4,5	4,5	4,5	4,5
PS ACR-F (dB)	12.6	12.7	15.1	14.9
Freq. (MHz)	3.1	11.9	250.0	249.0
Limit (dB)	50.4	38.8	12.3	12.3

N/A	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5	1,2-3,6	1,2-3,6
ACR-N (dB)	10.8	10.9	29.8	34.1
Freq. (MHz)	12.0	11.9	226.5	242.0
Limit (dB)	48.3	48.4	-0.1	-1.9
Worst Pair	4,5	4,5	3,6	1,2
PS ACR-N (dB)	12.7	12.4	32.0	34.7
Freq. (MHz)	3.3	3.3	226.5	242.0
Limit (dB)	58.4	58.4	-3.0	-4.9

PASS	MAIN	SR	MAIN	SR
Worst Pair	1,2	1,2	1,2	1,2
RL (dB)	6.8	12.7	9.5	14.7
Freq. (MHz)	93.0	93.3	235.5	211.0
Limit (dB)	12.3	12.3	8.3	8.8

Compliant Network Standards:
10BASE-T
100BASE-TX
2.5GBASE-T
ATM-51
TR-4
100VG-Anylan
TR-16 Passive

Project: ENPPI AGROOD-30
Agrood 30.flw



Wire Map (T568B)

Test Summary: PASS

Main: Versiv
S/N: 3089167
Software Version: V6.6 Build 2
Calibration Date: 12/20/2020
Adapter: DSX-5000 (DSX-PLA004)
S/N: 4534039

Remote: Versiv
S/N: 3057139
Software Version: V6.6 Build 2
Calibration Date: 12/20/2020
Adapter: DSX-5000R (DSX-PLA004)
S/N: 4534040



Cable ID: 011

Test Limit: TIA Cat 6 Channel

Limit Version: V7.6

Date / Time: 10/21/2021 11:11:18 AM

Operator: aymn abd mawgoud
Headroom 5.7 dB (NEXT 4.5-7.8)

Cable Type: Cat 6 U/UTP

NVP: 69.0%

Length (m), Limit 100.0	[Pair 7,8]	25.2
Prop. Delay (ns), Limit 555	[Pair 4,5]	132
Delay Skew (ns), Limit 50	[Pair 4,5]	10
Resistance (ohms)	[Pair 3,6]	4.25
Insertion Loss Margin (dB)	[Pair 3,6]	27.5
Frequency (MHz)	[Pair 3,6]	250.0
Limit (dB)	[Pair 3,6]	35.9

Worst Case Margin Worst Case Value

PASS	MAIN	SR
Worst Pair	4.5-7.8	4.5-7.8
NEXT (dB)	5.7	6.8
Freq. (MHz)	215.5	215.5
Limit (dB)	34.2	34.2
Worst Pair	4.5	3.6
PS NEXT (dB)	7.3	8.3
Freq. (MHz)	131.0	215.5
Limit (dB)	31.3	31.3

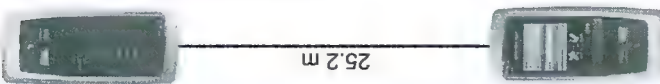
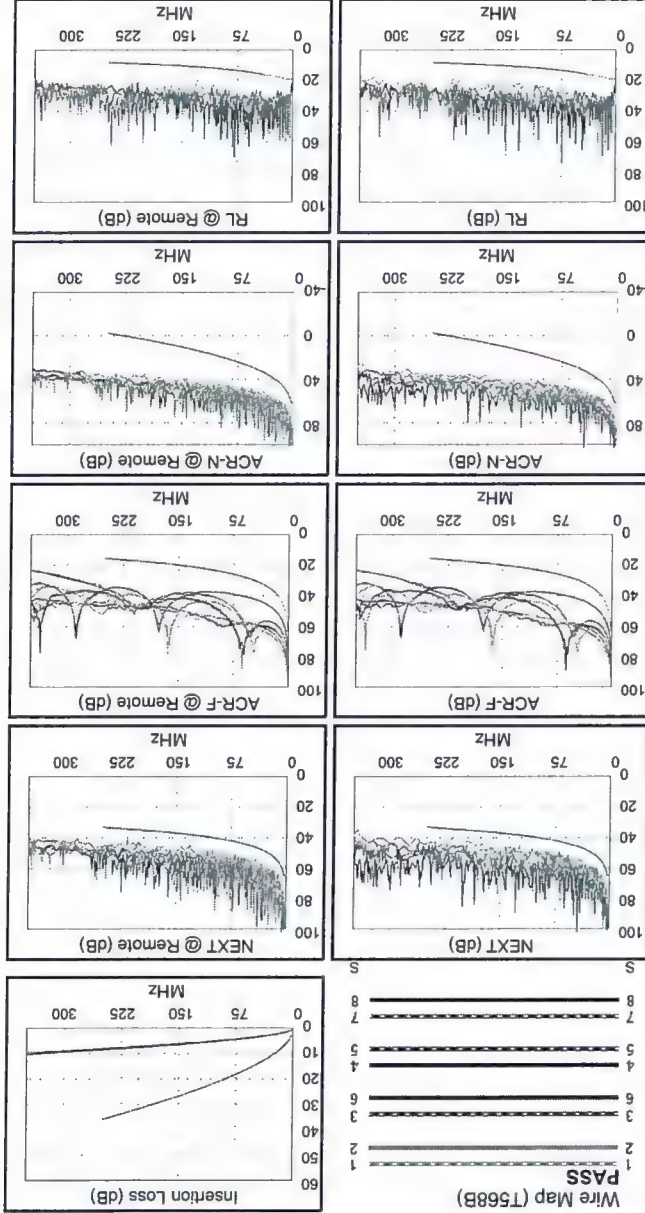
PASS	MAIN	SR
Worst Pair	4.5-3.6	3.6-4.5
NEXT (dB)	11.6	18.2
Freq. (MHz)	18.6	237.0
Limit (dB)	37.9	37.9
Worst Pair	4.5	4.5
PS ACR-F (dB)	13.7	19.5
Freq. (MHz)	3.5	240.0
Limit (dB)	49.4	42.1

N/A	MAIN	SR
Worst Pair	4.5-7.8	4.5-7.8
ACR-N (dB)	13.2	13.9
Freq. (MHz)	15.9	11.4
Limit (dB)	45.3	48.9
Worst Pair	4.5	4.5
PS ACR-N (dB)	13.6	13.9
Freq. (MHz)	7.6	3.6
Limit (dB)	50.4	57.4

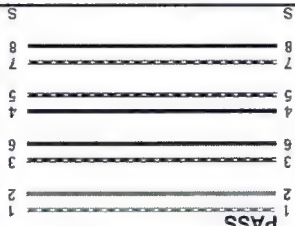
PASS	MAIN	SR
Worst Pair	1.2	7.8
RL (dB)	10.7	10.9
Freq. (MHz)	108.0	211.5
Limit (dB)	11.7	15.1

Compliant Network Standards:
100BASE-T
100BASE-TX
2.5GBASE-T
ATM-51
TR-4
100VG-Anylan
TR-16 Passive

100BASE-T4
5GBASE-T
ATM-155
TR-16 Active



Wire Map (T568B)



Test Summary: PASS

Remote: Versiv
S/N: 3057139

Software Version: V6.6 Build 2

Calibration Date: 12/20/2020

Adapter: DSX-5000R (DSX-PLA004)

S/N: 4534040

Main: Versiv
S/N: 3089167

Software Version: V6.6 Build 2

Calibration Date: 12/20/2020

Adapter: DSX-5000 (DSX-PLA004)

S/N: 4534039

Cable ID: 012

Test Limit: TIA Cat 6 Channel

Limits Version: V7.6

Date / Time: 10/21/2021 11:14:16 AM

Operator: aymn abd mawgoud

Headroom 6.2 dB (NEXT 3,6-4,5)

Cable Type: Cat 6 U/UTP

NVP: 69.0%

Length (m), Limit 100.0	[Pair 7,8]	25.4
Prop. Delay (ns), Limit 555	[Pair 4,5]	132
Delay Skew (ns), Limit 50	[Pair 4,5]	9
Resistance (ohms)	[Pair 4,5]	4.22
Insertion Loss Margin (dB)	[Pair 3,6]	27.5
Frequency (MHz)	[Pair 3,6]	250.0
Limit (dB)	[Pair 3,6]	35.9

Worst Case Margin Worst Case Value

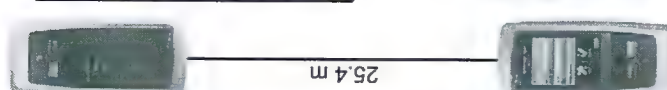
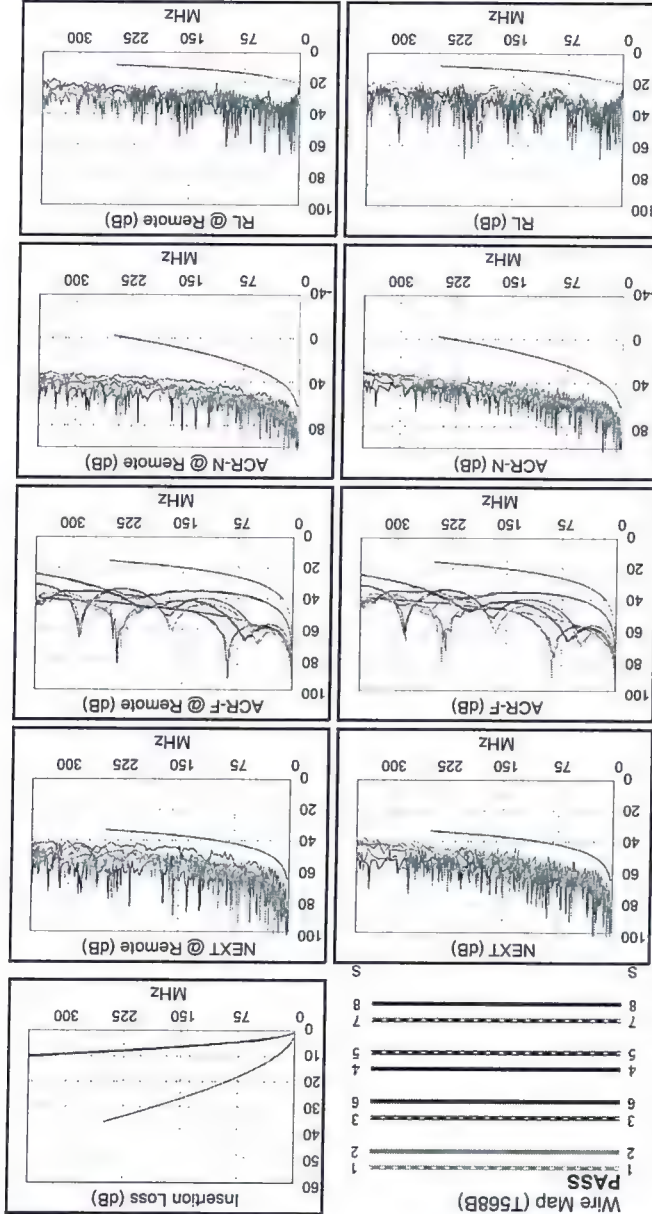
Worst Pair	MAIN	SR	MAIN	SR
NEXT (dB)	7.9	6.2	8.7	8.2
Freq. (MHz)	208.0	153.5	250.0	242.5
Limit (dB)	33.1	36.8	33.1	33.3
Worst Pair	4,5	3,6	3,6	3,6
PS NEXT (dB)	8.6	7.8	9.9	8.6
Freq. (MHz)	208.0	145.5	249.5	250.0
Limit (dB)	31.6	34.3	30.2	30.2

Worst Pair	MAIN	SR	MAIN	SR
ACR-F (dB)	4.5-3.6	3.6-4.5	1.2-4.5	4.5-1.2
Freq. (MHz)	10.1	10.0	17.6	17.7
Limit (dB)	22.4	14.6	240.0	240.0
Worst Pair	4,5	4,5	4,5	4,5
PS ACR-F (dB)	12.4	12.5	18.1	18.9
Freq. (MHz)	14.6	14.6	240.0	240.0
Limit (dB)	36.3	40.0	15.7	15.7

Worst Pair	MAIN	SR	MAIN	SR
ACR-N (dB)	3.6-4.5	3.6-4.5	1.2-3.6	3.6-4.5
Freq. (MHz)	11.7	11.8	36.2	35.3
Limit (dB)	4.1	4.3	250.0	242.5
Worst Pair	4,5	4,5	3,6	3,6
PS ACR-N (dB)	13.8	14.0	37.4	36.2
Freq. (MHz)	4.1	4.3	249.5	250.0
Limit (dB)	56.2	56.0	-5.7	-5.8

Worst Pair	MAIN	SR	MAIN	SR
RL (dB)	7.9	10.0	7.9	12.9
Freq. (MHz)	139.5	43.0	139.5	245.5
Limit (dB)	10.6	15.7	10.6	8.1

Compliant Network Standards:
 10BASE-T
 100BASE-TX
 2.5GBASE-T
 ATM-51
 TR-4
 TR-16 Passive
 100VG-AnyLAN
 ATM-25
 ATM-155
 100BASE-T4
 5GBASE-T
 ATM-155
 TR-16 Active



Wire Map (T568B)

Main: Versiv
 S/N: 3089167
 Software Version: V6.6 Build 2
 Calibration Date: 12/20/2020
 Adapter: DSX-5000 (DSX-PLA004)
 S/N: 4534039

Remote: Versiv
 S/N: 3057139
 Software Version: V6.6 Build 2
 Calibration Date: 12/20/2020
 Adapter: DSX-5000R (DSX-PLA004)
 S/N: 4534040

Test Summary: PASS



Cable ID: 013

Test Limit: TIA Cat 6 Channel

Limits Version: V7.6

Date / Time: 10/12/2021 11:17:38 AM

Operator: asym abd mawgoud

Headroom 8.3 dB (NEXT 4.5-7.8)

Cable Type: Cat 6 U/UTP

NVP: 69.0%

Length (m), Limit 100.0	[Pair 7.8]	24.4
Prop. Delay (ns), Limit 555	[Pair 4.5]	127
Delay Skew (ns), Limit 50	[Pair 4.5]	9
Resistance (ohms)	[Pair 4.5]	4.08
Insertion Loss Margin (dB)	[Pair 3.6]	27.8
Frequency (MHz)	[Pair 3.6]	250.0
Limit (dB)	[Pair 3.6]	35.9

Worst Case Margin Worst Case Value

PASS	MAIN	SR
Worst Pair	4.5-7.8	3.6-4.5
NEXT (dB)	8.3	9.0
Freq. (MHz)	229.5	23.9
Limit (dB)	33.8	50.4
Worst Pair	4.5	3.6
PS NEXT (dB)	8.4	9.6
Freq. (MHz)	96.3	23.9
Limit (dB)	37.4	47.7
Worst Pair	4.5	3.6
PS NEXT (dB)	8.4	9.6
Freq. (MHz)	23.9	23.9
Limit (dB)	23.5	248.5
Worst Pair	4.5	3.6
PS NEXT (dB)	8.4	9.6
Freq. (MHz)	96.3	23.9
Limit (dB)	37.4	47.7

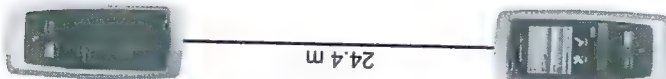
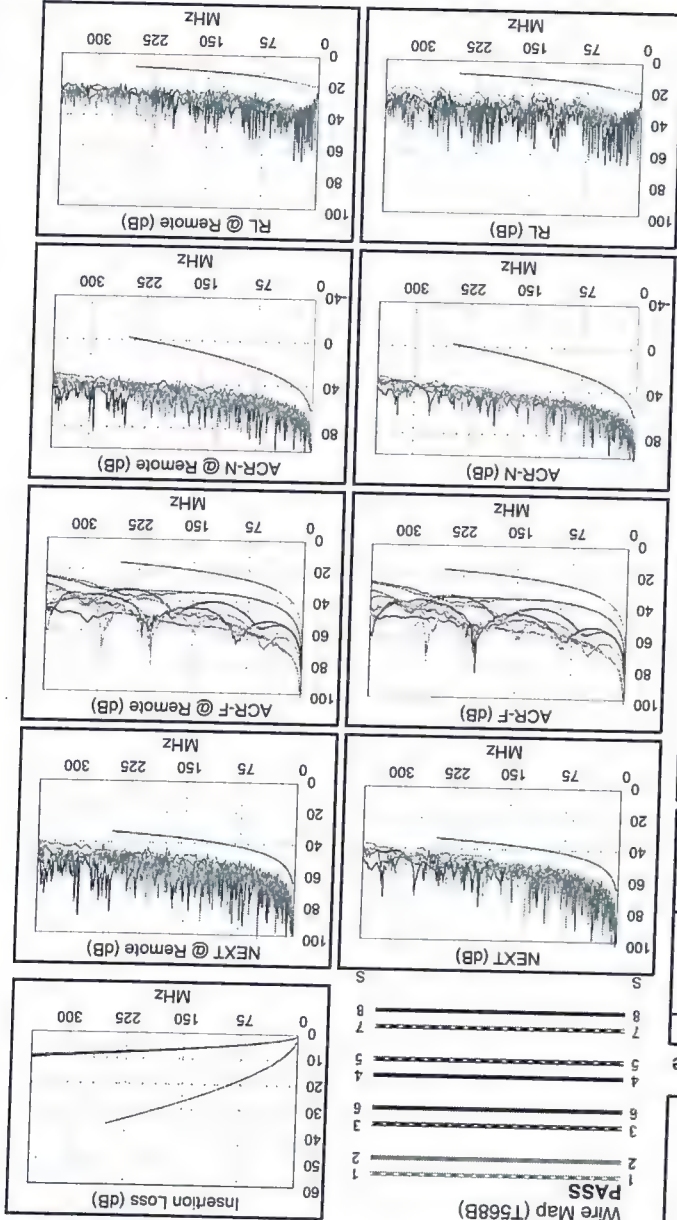
PASS	MAIN	SR
Worst Pair	4.5-3.6	3.6-4.5
ACR-F (dB)	10.0	16.4
Freq. (MHz)	11.8	23.4
Limit (dB)	41.9	35.9
Worst Pair	4.5	4.5
PS ACR-F (dB)	12.3	17.7
Freq. (MHz)	1.1	11.8
Limit (dB)	59.2	38.9
Worst Pair	4.5	4.5
PS ACR-F (dB)	12.3	17.7
Freq. (MHz)	1.1	11.8
Limit (dB)	59.2	38.9

N/A	MAIN	SR
Worst Pair	3.6-4.5	4.5-7.8
ACR-N (dB)	13.3	12.8
Freq. (MHz)	4.4	242.0
Limit (dB)	58.2	58.2
Worst Pair	4.5	3.6
PS ACR-N (dB)	14.7	35.4
Freq. (MHz)	7.8	233.5
Limit (dB)	50.3	56.0
Worst Pair	4.5	3.6
PS ACR-N (dB)	14.7	35.4
Freq. (MHz)	7.8	233.5
Limit (dB)	50.3	56.0

PASS	MAIN	SR
Worst Pair	1.2	3.6
RL (dB)	8.8	11.4
Freq. (MHz)	137.0	85.8
Limit (dB)	10.6	12.7
Worst Pair	1.2	3.6
RL (dB)	8.8	11.4
Freq. (MHz)	137.0	85.8
Limit (dB)	10.6	12.7

Compliant Network Standards:
 10BASE-T
 100BASE-T
 2.5GBASE-T
 ATM-51
 TR-4
 TR-16 Passive
 100VG-Anylan
 ATM-25

100BASE-T4
 5GBASE-T
 ATM-155
 TR-16 Active





24.4 m

Test Summary: PASS
 Main: Versiv S/N: 3089167
 Adapter: DSX-5000 (DSX-PLA004) Calibration Date: 12/20/2020 Software Version: V6.6 Build 2
 Remote: Versiv S/N: 3057139
 Adapter: DSX-5000R (DSX-PLA004) Calibration Date: 12/20/2020 Software Version: V6.6 Build 2
 S/N: 4534040



12.10- Electrical Pre-Commissioning Check Lists

System ID	030-TE-001
System Description	Integrated Voice & Data System
<div data-bbox="1117 1944 1396 2027">  Enppi PETROJET شركة البترول </div> <div data-bbox="518 1944 1021 2004"> Project: 01251-100 CRUDE OIL TANK FARM PROJECT (AGROOD AREA) </div> <div data-bbox="247 1915 438 2004">  شركة الزيت Saudi Aramco </div>	

PRE-COMMISSIONING CHECK LIST LOW VOLTAGE CABLES EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARM - AGROOD AREA (MODULE 1)

PROJECT NUMBER : 1251-100

DISCIPLINE : Electrical

SYSTEM NAME : Integrated Voice & Data System

SYSTEM ID : 030-TE-001

SUB-SYSTEM NAME : Integrated Voice & Data System

SUB-SYSTEM ID : 030-TE-001

ITEM TAG No. : P-030-FT-007

AREA : 30

REF. DWGS/DOCS :

No.	DESCRIPTION	RESULT	OK/NA/PL	ITEM No.
		PL		

1	Construction punch list to be checked.			
2	Check cables are correctly fixed to trays and supports.			
3	Check cables through walls or ceilings are correctly sealed.			
4	Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.			
5	Check identification tags of all conductors and wires.			
6	Check connection, tightness, termination and joints of cables are correctly executed.			
7	Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.			
8	Check that the bending radius of cables is not less than the minimum established.			
9	Cable markers to be installed before covering buried cables or cables in cable trays.			
10	Tie wraps to be used for cable and wires fixation.			
11	Cable connections shall be torque tested.			

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

10000-Z-000-EK7-TMP-0014 (03/14)

PRE-COMMISSIONING CHECK LIST

LOW VOLTAGE CABLES

EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARM - AGROOD AREA (MODULE 1)	
PROJECT NUMBER : 1251-100	DISCIPLINE : Electrical
SYSTEM NAME : Integrated Voice & Data System	SYSTEM ID : 030-TE-001
SUB-SYSTEM NAME : Integrated Voice & Data System	SUB-SYSTEM ID : 030-TE-001
ITEM TAG No. : P-030-Fit-007	AREA : 30
REF. DWGS/DOCS :	

No.	DESCRIPTION	RESULT	OK/NA/PL	ITEM No.
		PL		
12	Check that buried cables are correctly covered and protected.		N/A	
13	Trench markers to be checked w.r.t approved documents.		N/A	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.		—	
15	Inspect cable laid in trenches, segregation and protection.		N/A	
16	Cables to be tested (continuity/insulation resistance). (*)		—	
17	Equipment test report and inspection certificate to be checked.		—	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)		—	
19	Calibration test certificate of testing equipment to be checked.		—	

REMARKS AND OBSERVATIONS :
 (*) Refer to table (III).

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

10000-Z-000-EK7-TMP-0014 (03/14)

PRE-COMMISSIONING CHECK LIST LOW VOLTAGE CABLES EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARM - AGROOD AREA (MODULE 1)	
PROJECT NUMBER : 1251-100	DISCIPLINE : Electrical
SYSTEM NAME : Integrated Voice & Data System	SYSTEM ID : 030-TE-001
SUB-SYSTEM NAME : Integrated Voice & Data System	SUB-SYSTEM ID : 030-TE-001
ITEM TAG No. : P-030-FIT-008	AREA : 30
REF. DWGS/DOCS :	

No.	DESCRIPTION	OK/NA/PL	ITEM No.
		RESULT	PL

1	Construction punch list to be checked.	—	
2	Check cables are correctly fixed to trays and supports.	—	
3	Check cables through walls or ceilings are correctly sealed.	—	
4	Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.	—	
5	Check identification tags of all conductors and wires.	—	
6	Check connection, tightness, termination and joints of cables are correctly executed.	—	
7	Check where conductors have been terminated using crimping lugs; ensure the correct size and type of crimping lugs.	—	
8	Check that the bending radius of cables is not less than the minimum established.	—	
9	Cable markers to be installed before covering buried cables or cables in cable trays.	—	
10	The wraps to be used for cable and wires fixation.	—	
11	Cable connections shall be torque tested.	—	

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARM - AGROOD AREA (MODULE 1)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : P-30 fit-008		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	PL
OK/NA/PL	ITEM No.		
	12	Check that buried cables are correctly covered and protected.	N/A
	13	Trench markers to be checked w.r.t approved documents.	N/A
	14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	/
	15	Inspect cable laid in trenches, segregation and protection.	N/A
	16	Cables to be tested (continuity/insulation resistance). (*)	/
	17	Equipment test report and inspection certificate to be checked.	/
	18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	/
	19	Calibration test certificate of testing equipment to be checked.	/
REMARKS AND OBSERVATIONS :			
(*) Refer to table (III).			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST LOW VOLTAGE CABLES EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARM - AGROOD AREA (MODULE 1)

PROJECT NUMBER : 1251-100

DISCIPLINE : Electrical

SYSTEM NAME : Integrated Voice & Data System

SYSTEM ID : 030-TE-001












SUB-SYSTEM NAME : Integrated Voice & Data System

SUB-SYSTEM ID : 030-TE-001

ITEM TAG No. : P-030-FIT-009

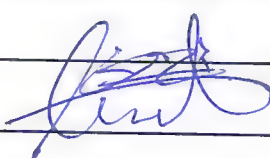
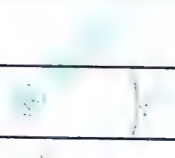
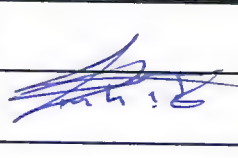
AREA : 30

REF. DWGs/DOCs :

No.	DESCRIPTION	RESULT	PL
		OK/NA/PL	ITEM No.
1	Construction punch list to be checked.		
2	Check cables are correctly fixed to trays and supports.		
3	Check cables through walls or ceilings are correctly sealed.		
4	Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.		
5	Check identification tags of all conductors and wires.		
6	Check connection, tightness, termination and joints of cables are correctly executed.		
7	Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.		
8	Check that the bending radius of cables is not less than the minimum established.		
9	Cable markers to be installed before covering buried cables or cables in cable trays.		
10	Tie wraps to be used for cable and wires fixation.		
11	Cable connections shall be torque tested.		

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST LOW VOLTAGE CABLES EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARM - AGROOD AREA (MODULE 1)

PROJECT NUMBER : 1251-100

DISCIPLINE : Electrical

SYSTEM NAME : Integrated Voice & Data System

SYSTEM ID : 030-TE-001

SUB-SYSTEM NAME : Integrated Voice & Data System

SUB-SYSTEM ID : 030-TE-001

ITEM TAG No. : P-030-Fit-009

AREA : 30

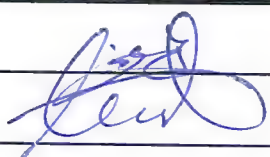
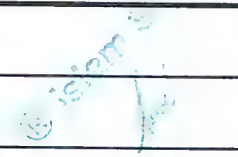

REF. DWGs/DOCs :

No.	DESCRIPTION	RESULT	PL
		OK/NA/PL	ITEM No.
12	Check that buried cables are correctly covered and protected.	N/A	
13	Trench markers to be checked w.r.t approved documents.	N/A	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	—	
15	Inspect cable laid in trenches, segregation and protection.	N/A	
16	Cables to be tested (continuity/insulation resistance). (*)	—	
17	Equipment test report and inspection certificate to be-checked.	—	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	—	
19	Calibration test certificate of testing equipment to be checked.	—	

REMARKS AND OBSERVATIONS :

(*) Refer to table (III).

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PAGE 1 OF 1

© Islamic Republic of Iran

PRE-COMMISSIONING CHECK LIST			
TELECOMMUNICATION CABLES			
TE-07 A			
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrood Area 30 (Module-01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Telecommunication	
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : VD-TEL-030-03		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	OK/NA/PL
PL	ITEM No.		
11	Confirm that all cables connected to equipment conform to cable schedule.		
12	Check that all cables are correctly supported.		
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
MEDIUM VOLTAGE CABLES			
EL-31 A			
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrood Area 30 (Module-01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : P1-CCTV-CRK-030-01		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
1	Construction punch list to be checked.	✓	
2	Check cables are correctly fixed to trays and supports.	✓	
3	Check cables through walls or ceilings are correctly sealed.	✓	
4	Check that all cables are installed in accordance with cable lists and approved documents.	✓	
5	Check identification tags of all conductors and wires.	✓	
6	Check connection, termination and joints of cables are correctly executed.	✓	
7	Inspect cables for jacket damage.	✓	
8	Ensure that the correct size and type of crimping lugs have been used.	✓	
9	Check that the bending radius of cables is not less than the minimum established.	✓	
10	Cable markers to be installed before covering buried cables or cables in cable trays.	✓	
11	Tie wraps to be used for cable and wires fixation.	✓	
REMARKS AND OBSERVATIONS:			
All cable trays must be installed.			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PAGE 1 OF 1



**PRE-COMMISSIONING CHECK LIST
MEDIUM VOLTAGE CABLES
EL-31 A**

INSULATION TEST

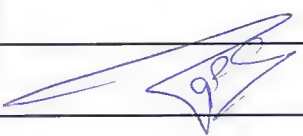
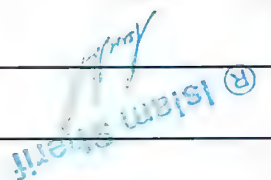
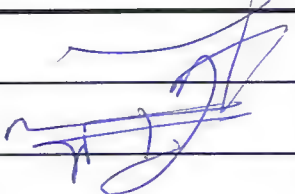
EL-31 A

CABLE VOLTAGE LEVEL		
D.C TEST VOLTAGE		
MINIMUM INSULATION RESISTANCE (M.OHMS).		
3.3KV	2500V	200
6.6KV & Above	5000V	200

TABLE (I)

NOTES:

PRE-COMMISSIONING CHECK LIST			
MEDIUM VOLTAGE CABLES			
EL-31 A			
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrood Area 30 (Module-01)			
PROJECT NUMBER : 1251-100			
DISCIPLINE : Electrical		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : P1-VD-TRK-030-01		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	OK/NA/PL
PL	ITEM No.		
	1	Construction punch list to be checked.	/
	2	Check cables are correctly fixed to trays and supports.	/
	3	Check cables through walls or ceilings are correctly sealed.	/
	4	Check that all cables are installed in accordance with cable lists and approved documents.	/
	5	Check identification tags of all conductors and wires.	/
	6	Check connection, termination and joints of cables are correctly executed.	/
	7	Inspect cables for jacket damage.	/
	8	Ensure that the correct size and type of crimping lugs have been used.	/
	9	Check that the bending radius of cables is not less than the minimum established.	/
	10	Cable markers to be installed before covering buried cables or cables in cable trays.	/
	11	Tie wraps to be used for cable and wires fixation.	/
REMARKS AND OBSERVATIONS:			
All cable trays must be installed			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
MEDIUM VOLTAGE CABLES			
FL-31 A			
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrood Area 30 (Module-01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : P1-VD-TRK-030-01		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	OK/NA/PL	RESULT
PL	ITEM No.		
12	Trench markers to be checked w.r.t approved documents.	N/A	
13	Check cable glands for tightness and check the correct type of gland has been used for the size and type of installed cables.	/	
14	Inspect cable laid in trenches, segregation and protection.	N/A	
15	Cables to be tested (continuity/insulation resistance).(*)	/	
16	Equipment test report and inspection certificate to be checked.	/	
17	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	/	
18	Calibration test certificate of testing equipment to be checked.	/	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			



PRE-COMMISSIONING CHECK LIST
MEDIUM VOLTAGE CABLES
EL-31 A

INSULATION TEST
EL-31 A

CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).
3.3kV	2500V	200
6.6kV & Above	5000V	200

TABLE II

NOTES:

DATE		SIGNATURE		NAME		COMPANY	
						CONST. CONTRACTOR	
						ENPPI	
						CUSTOMER	
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.							
REMARKS AND OBSERVATIONS : All cables tags must be installed							
No.	DESCRIPTION		RESULT	ITEM No.	1	Construction punch list to be checked.	
2	Check cables are correctly fixed to trays and supports.		/		2	Check cables through walls or ceilings are correctly sealed.	
3	Check that all cables are installed in accordance with cable lists and approved documents.		/		4	Check identification tags of all conductors and wires.	
5	Check connection, termination and joints of cables are correctly executed.		/		6	Inspect cables for jacket damage.	
6	Ensure that the correct size and type of crimping lugs have been used.		/		8	Check that the bending radius of cables is not less than the minimum established.	
9	Cable markers to be installed before covering buried cables or cables in cable trays.		/		10	Tie wraps to be used for cable and wires fixation.	
11			/				
REF. DWGS/DOCS :							
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical		SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001		ITEM TAG No. : P2-CCTV-CRK-030-01		AREA : 30	
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrod Area 30 (Module-01)							
PRE-COMMISSIONING CHECK LIST MEDIUM VOLTAGE CABLES EL-31 A							

PRE-COMMISSIONING CHECK LIST
MEDIUM VOLTAGE CABLES
EL-31 A

PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrood Area 30 (Module-01)

PROJECT NUMBER : 1251-100

DISCIPLINE : Electrical

SYSTEM NAME : Integrated Voice & Data System

SYSTEM ID : 030-TE-001

SUB-SYSTEM NAME : Integrated Voice & Data System

SUB-SYSTEM ID : 030-TE-001

ITEM TAG No. : P2-CCTV-CRK-030-01

AREA : 30

REF. DWGS/DOCS :

No.	DESCRIPTION	RESULT	OK/NA/PL	ITEM No.
		PL		
12	Trench markers to be checked w.r.t approved documents.		N/A	
13	Check cable glands for tightness and check the correct type of gland has been used for the size and type of installed cables.		—	
14	Inspect cable laid in trenches, segregation and protection.		N/A	
15	Cables to be tested (continuity/insulation resistance).(*)		—	
16	Equipment test report and inspection certificate to be checked.		—	
17	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)		—	
18	Calibration test certificate of testing equipment to be checked.		—	
REMARKS AND OBSERVATIONS :				
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.				

DATE			
SIGNATURE			
NAME			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER



**PRE-COMMISSIONING CHECK LIST
MEDIUM VOLTAGE CABLES
EL-31 A**

INSULATION TEST

EL-31 A

CABLE VOLTAGE LEVEL		
D.C TEST VOLTAGE		
MINIMUM INSULATION RESISTANCE (M.OHMS).		
3.3KV	2500V	200
6.6KV & Above	5000V	200

TABLE II

NOTES:

PRE-COMMISSIONING CHECK LIST			
MEDIUM VOLTAGE CABLES			
EL-31 A			
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrod Area 30 (Module-01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : P2-VD-TRK-030-01		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
1	Construction punch list to be checked.	/	
2	Check cables are correctly fixed to trays and supports.	/	
3	Check cables through walls or ceilings are correctly sealed.	/	
4	Check that all cables are installed in accordance with cable lists and approved documents.	/	
5	Check identification tags of all conductors and wires.	/	
6	Check connection, termination and joints of cables are correctly executed.	/	
7	Inspect cables for jacket damage.	/	
8	Ensure that the correct size and type of crimping lugs have been used.	/	
9	Check that the bending radius of cables is not less than the minimum established.	/	
10	Cable markers to be installed before covering buried cables or cables in cable trays.	/	
11	Tie wraps to be used for cable and wires fixation.	/	
REMARKS AND OBSERVATIONS :			
All cable trays must be installed			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
MEDIUM VOLTAGE CABLES			
EL-31 A			
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrod Area 30 (Module-01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : P2-VD-TRK-030-01		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
12	Trench markers to be checked w.r.t approved documents.	W/A	
13	Check cable glands for tightness and check the correct type of gland has been used for the size and type of installed cables.	—	
14	Inspect cable laid in trenches, segregation and protection.	W/A	
15	Cables to be tested (continuity/insulation resistance).(*)	—	
16	Equipment test report and inspection certificate to be checked.	—	
17	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	—	
18	Calibration test certificate of testing equipment to be checked.	—	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			



PRE-COMMISSIONING CHECK LIST
MEDIUM VOLTAGE CABLES
EL-31 A

INSULATION TEST
EL-31 A

CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).
3.3kV	2500V	200
6.6kV & Above	5000V	200

TABLE II

NOTES:

PRE-COMMISSIONING CHECK LIST		MEDIUM VOLTAGE CABLES		EL-31 A	
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrod Area 30 (Module-01)					
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical			
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001			
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001			
ITEM TAG No. : P3-CCTV-CRK-030-01		AREA : 30			
REF. DWGS/DOCS :					
No.	DESCRIPTION	RESULT	OK/NA/PL	ITEM No.	
1	Construction punch list to be checked.	/			
2	Check cables are correctly fixed to trays and supports.	/			
3	Check cables through walls or ceilings are correctly sealed.	/			
4	Check that all cables are installed in accordance with cable lists and approved documents.	/			
5	Check identification tags of all conductors and wires.	/			
6	Check connection, termination and joints of cables are correctly executed.	/			
7	Inspect cables for jacket damage.	/			
8	Ensure that the correct size and type of crimping lugs have been used.	/			
9	Check that the bending radius of cables is not less than the minimum established.	/			
10	Cable markers to be installed before covering buried cables or cables in cable trays.	/			
11	Tie wraps to be used for cable and wires fixation.	/			
REMARKS AND OBSERVATIONS :					
All cables trays must be installed					
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.					
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER		
NAME					
SIGNATURE					
DATE					

PRE-COMMISSIONING CHECK LIST			
MEDIUM VOLTAGE CABLES			
EL-31 A			
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrod Area 30 (Module-01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : P3-CCTV-CRK-030-01		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
12	Trench markers to be checked w.r.t approved documents.	N/A	
13	Check cable glands for tightness and check the correct type of gland has been used for the size and type of installed cables.	—	
14	Inspect cable laid in trenches, segregation and protection.	N/A	
15	Cables to be tested (continuity/insulation resistance).(*)	—	
16	Equipment test report and inspection certificate to be checked.	—	
17	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	—	
18	Calibration test certificate of testing equipment to be checked.	—	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

INSULATION TEST

[illegible]

NOTES:

PRE-COMMISSIONING CHECK LIST			
MEDIUM VOLTAGE CABLES			
EL-31 A			
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrod Area 30 (Module-01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : P3-VD-TRK-030-01		AREA : 30	
REF. DWGS/DOCS :			
No.		DESCRIPTION	
PL	RESULT	OK/NA/PL	ITEM No.
		/	1
			Construction punch list to be checked.
		/	2
			Check cables are correctly fixed to trays and supports.
		/	3
			Check cables through walls or ceilings are correctly sealed.
		/	4
			Check that all cables are installed in accordance with cable lists and approved documents.
		/	5
			Check identification tags of all conductors and wires.
		/	6
			Check connection, termination and joints of cables are correctly executed.
		/	7
			Inspect cables for jacket damage.
		/	8
			Ensure that the correct size and type of crimping lugs have been used.
		/	9
			Check that the bending radius of cables is not less than the minimum established.
		/	10
			Cable markers to be installed before covering buried cables or cables in cable trays.
		/	11
			Tie wraps to be used for cable and wires fixation.
REMARKS AND OBSERVATIONS :			
<p style="font-size: 1.2em; color: blue;">All cables tags must be installed</p>			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME	SIGNATURE	DATE	DATE

PRE-COMMISSIONING CHECK LIST			
MEDIUM VOLTAGE CABLES			
EL-31 A			
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrood Area 30 (Module-01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : P3-VD-TRK-030-01		AREA : 30	
REF. DWGS/DOCS :			
No.		DESCRIPTION	
PL	RESULT	OK/NA/PL	ITEM No.
		N/A	12
Trench markers to be checked w.r.t approved documents.			
			13
Check cable glands for tightness and check the correct type of gland has been used for the size and type of installed cables.			
		N/A	14
Inspect cable laid in trenches, segregation and protection.			
			15
Cables to be tested (continuity/insulation resistance).(*)			
			16
Equipment test report and inspection certificate to be checked.			
			17
Check availability of vendor documents, including commissioning and start-up instructions. (If Any)			
			18
Calibration test certificate of testing equipment to be checked.			
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			



PRE-COMMISSIONING CHECK LIST
MEDIUM VOLTAGE CABLES
EL-31 A

INSULATION TEST
EL-31 A

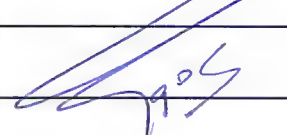

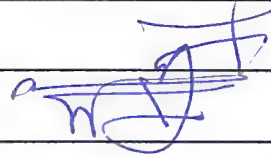
CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).
3.3kV	2500V	200
6.6kV & Above	5000V	200

TABLE II

NOTES:

PRE-COMMISSIONING CHECK LIST TELECOMMUNICATION CABLES TE-07 A			
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrood Area 30 (Module-01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Telecommunication	
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : VD-TEL-030-01		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
1	All cables are terminated correctly as per the wiring Dwg and correctly fitted.	✓	
2	Carry out insulation resistance and continuity check.	✓	
3	Carry out Meggering check.	✓	
4	Cable tags are placed correctly (at both ends) and reflect the correct cable tag.	✓	
5	No Bending radius violation for the cables.	✓	
6	Check Earthing/grounding in accordance with specification.	✓	
7	Cable screen correctly connected to its corresponding earthing bar.	✓	
8	Check Cable type and model number as mentioned in the drawings/purchase order.	✓	
9	Glanding / Locknuts are correctly made.	✓	
10	Check that spare length exist at both ends of the cable.	✓	
11	Check cable installation conforms to drawings.	✓	
REMARKS AND OBSERVATIONS : <div style="font-size: 1.2em; color: blue; transform: rotate(-15deg);"> All cable tags must be installed </div>			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
TELECOMMUNICATION CABLES			
TE-07 A			
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrood Area 30 (Module-01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Telecommunication	
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : VD-TEL-030-01		AREA : 30	
REF. DWGS/DOCS :			
No.		DESCRIPTION	
PL		RESULT	
ITEM No.		OK/NA/PL	
11	Confirm that all cables connected to equipment conform to cable schedule.	✓	
12	Check that all cables are correctly supported.	✓	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY		CONST. CONTRACTOR	
NAME		ENPPI	
SIGNATURE		CUSTOMER	
DATE			

PRE-COMMISSIONING CHECK LIST			
TELECOMMUNICATION CABLES			
TE-07 A			
PROJECT TITLE : EGPC Crude Oil Tank Farms Project, Agrood Area 30 (Module-01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Telecommunication	
SYSTEM NAME : Integrated Voice & Data System		SYSTEM ID : 030-TE-001	
SUB-SYSTEM NAME : Integrated Voice & Data System		SUB-SYSTEM ID : 030-TE-001	
ITEM TAG No. : VD-TEL-030-02		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
1	All cables are terminated correctly as per the wiring Dwg and correctly fitted.	✓	
2	Carry out insulation resistance and continuity check.	✓	
3	Carry out Meggering check.	✓	
4	Cable tags are placed correctly (at both ends) and reflect the correct cable tag.	✓	
5	No Bending radius violation for the cables.	✓	
6	Check Earthing/grounding in accordance with specification.	✓	
7	Cable screen correctly connected to its corresponding earthing bar.	✓	
8	Check Cable type and model number as mentioned in the drawings/purchase order.	✓	
9	Glanding / Locknuts are correctly made.	✓	
10	Check that spare length exist at both ends of the cable.	✓	
11	Check cable installation conforms to drawings.	✓	
REMARKS AND OBSERVATIONS :			
<p style="font-size: 1.2em; color: blue;">All Cables Tags must be installed</p>			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PAGE 1 OF 1

12.11- Electrical Supplier Check Lists & Reports

System ID	System Description
030-TE-001	Integrated Voice & Data System

13- Electrical Commissioning

System ID	System Description
030-TE-001	Integrated Voice & Data System





Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



13.01- Electrical -Commissioning Check Lists

<div data-bbox="263 1899 459 1989" data-label="Image"> </div> <div data-bbox="537 1919 1040 1977" data-label="Text"> <p>Project: 01251-100 CRUDE OIL TANK FARM PROJECT (AGROOD AREA)</p> </div>	<div data-bbox="1136 1919 1412 2000" data-label="Image"> </div>
<div data-bbox="976 1848 1086 1877" data-label="Text"> <p>030-TE-001</p> </div>	<div data-bbox="1329 1848 1428 1877" data-label="Text"> <p>System ID</p> </div>
<div data-bbox="805 1798 1086 1830" data-label="Text"> <p>Integrated Voice & Data System</p> </div>	<div data-bbox="1241 1798 1428 1830" data-label="Text"> <p>System Description</p> </div>

<div><div>Enppi PETROJET</div></div> <div>Project: 01251-100 CRUDE OIL TANK FARM PROJECT (AGROOD AREA)</div> <div></div>		System ID	030-TE-001	System Description	Integrated Voice & Data System
<div>13.02- Electrical Supplier Check Lists & Reports</div>					

14- Red Marked-up Drawings

System ID	System Description
030-TE-001	Integrated Voice & Data System



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



14.01- P&ID

System ID	System Description
030-TE-001	Integrated Voice & Data System





Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



14.02- Instrumentation Drawings

System ID	030-TE-001
System Description	Integrated Voice & Data System

14.03- Electrical Drawings

System ID		030-TE-001
System Description		Integrated Voice & Data System
<div><div><div>Enppi PETROJET</div></div><div>Project: 01251-100 CRUDE OIL TANK FARM PROJECT (AGROOD AREA)</div><div><div>الهيئة العامة للغازات والبترول الكويتية العامة للغازات والبترول</div></div></div>		